

ALBENI FALLS PROJECT MASTER PLAN

BONNER COUNTY, IDAHO

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Seattle District
Corps of Engineers

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Albeni Falls Master Plan

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Acronyms and Abbreviations

ADA	Americans with Disabilities Act
AFD	Albeni Falls Dam
AR	Army Regulation(s)
BO	Biological Opinion
BPA	Bonneville Power Administration
cfs	cubic feet per second
Corps	US Army Corps of Engineers, Seattle District
elevations	For AFD, the jurisdictional line for both the Clean Water Act and the Rivers and Harbors Act is the OHW located at 2,062.5 feet MSL NGVD 29. On newer maps, land elevations have been corrected to North NAVD 88. In Idaho, the conversion is elevation in NGVD 29 + 3.88 ft equals elevation in NAVD 88. Therefore, OHW of 2062.5 ft NGVD 29 is 2066.4 ft NAVD 88. To lessen confusion, elevations in the body of this document are in NGVD 29.
EM	Engineering Manual
ER	Engineering Regulation(s)
ERDC	Corps of Engineers' Engineering Research Development Center
FCRPS	Federal Columbia River Power System
HPMP	Historic Property Management Plan
ICDC	Idaho Conservation Data Center
IDEQ	Idaho Department of Environmental Quality
IDFG	Idaho Department of Fish and Game
IDPR	Idaho Department of Parks and Recreation
ISDA	Idaho State Department of Agriculture
ISPR	Idaho State Department of Parks and Recreation
kW	kilowatt
MCE	minimum control elevation
MSL	Mean Sea Level
NAVD 88	North American Vertical Datum 1988. Replaced NGVD 29 and is the vertical control datum of orthometric height in the U.S., Canada, and Mexico.
NGVD 29	National Geodetic Vertical Datum 1929. Measures mean sea level at 26 tide gauges in North America (21 in the U.S. and 5 in Canada).
NOAA Fisheries	National Oceanic and Atmospheric Administration Fisheries (National Marine Fisheries Service)
NRCS	Natural Resource Conservation Service
OHW	Ordinary High Water,
PA	Programmatic Agreement
Panhandle Region of Idaho (as defined by Idaho State Agencies)	Comprised of the following Counties: Boundary, Bonner, Benewah, Kootenai, and Shoshone

PL	Public Law
SHPO	State Historic Preservation Office / Officer
THPO	Tribal Historic Preservation Office / Officer
USACE	United States Army Corps of Engineers
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WMA	Wildlife Management Area

Albeni Falls Project Master Plan

1 INTRODUCTION

This document is the *Recreation and Natural Resources Master Plan* (Master Plan) for management of the lands and associated recreational, natural, and cultural resources of the Albeni Falls Project. Master Plans are required for civil works projects and other fee-owned lands for which the U.S. Army Corps of Engineers (Corps) has administrative responsibility for management. This document builds upon and replaced the existing Master Plan for Albeni Falls Project (Design Memorandum 25), which was prepared in 1981.

1.1 PROJECT AUTHORIZATION

Albeni Falls Dam (AFD), named for an early pioneer, Albeni Poirier, was authorized for construction under the Flood Control Act of 1950 (Public Law (PL) 81-516). This Act was signed by the United States Congress in response to a great flood that swept over the river valleys of the Columbia basin in 1948. Construction on the dam began in January 1951 and was finished in December 1955. Regulation of water levels on Lake Pend Oreille started in 1952. Albeni Falls Dam has five authorized project purposes, which are hydropower, flood risk management, navigation, recreation, and the conservation of fish and wildlife.

1.2 PROJECT PURPOSE AND LOCATION

Albeni Falls Dam and Reservoir (Figure 1) is a Federal storage facility with over 1.1 million acre-feet of useable storage and is operated by the U.S. Army Corps of Engineers,



Figure 1. Location of AFD and the Pend Oreille Basin.

Seattle District. It is part of the Columbia River system, providing storage for 15 downstream Federal and non-Federal hydroelectric projects on the Columbia and Pend Oreille Rivers. Its specific power operations are under the direction of the Bonneville Power Administration (BPA) to help meet Federal system elective power needs. The dam is on the Pend Oreille River in Bonner County, Idaho, just east of the Washington-Idaho border, approximately 50 miles northeast of Spokane, Washington and

Figure 2. AFD location in northern Idaho

Figure 3. AFD and local vicinity

25 miles west of Sandpoint, Idaho (Figure 2). Near the dam are the two small towns of Oldtown, Idaho, and Newport, Washington (Figure 3).

1.2.1 ALBENI FALLS DAM

Albeni Falls Dam is a 90-foot high concrete gravity dam, with adjustable gates for controlling water levels in the reservoir. The overall length – including a 472-foot-long spillway and two abutment sections – is 755 feet. The powerhouse is 206 feet wide by 301 feet long, with three Kaplan turbines and generators. The combined electrical output capacity of the three generators is 42,600 kilowatts (kW). Under the current operating schedule, the dam produces an average of 200,000 megawatt-hours of electricity annually, enough for 15,000 households. Specific power operations are under the direction of the Bonneville Power Administration (BPA) to help meet federal system electric power needs. Albeni Falls Dam is part of the Federal Columbia River Power System (FCRPS), providing storage for 15 downstream federal and non-federal hydroelectric projects on the Columbia and Pend Oreille Rivers. Other pertinent data about AFD is in Table 1 below.

Table 1. Pertinent Data for Albeni Falls Dam

ALBENI FALLS DAM PERTINENT DATA	
GENERAL	
Drainage Basin	Clark Fork River Basin, Pend Oreille River Basin, tributary to Columbia River
Drainage area above dam	24,200 square miles
Tributaries	Clark Fork, Priest, and Pack Rivers
Location of Dam	River mile 90 (above confluence of Pend Oreille River at Columbia River)
Operating and Managing Agency	U.S. Army Corps of Engineers
Purposes	Hydropower, flood risk management, navigation, recreation, conservation of fish and wildlife
Authorization	Section 204 of the Flood Control Act of 1950 (PL 81-516)
Year Construction Started	1951
Year Dam Placed into Operation	1955
Construction Cost	\$34 million (\$301 million in current value)
DAM	
Type	Concrete gravity, submerged spillway
Crest Elevation	2033 feet (MSL NGVD 29) ¹
Crest Length	755 feet (dam, spillway, and powerhouse)

¹ The jurisdictional line for both the Clean Water Act and the Rivers and Harbors Act is the Ordinary High Water Line (OHW) located at 2,062.5 feet mean sea level (MSL) National Geodetic Vertical Datum 1929 (NGVD 29). On newer maps, land elevations have been revised to North American Vertical Datum 1988 (NAVD 88). In northern Idaho, the conversion is elevation in NGVD 29 + 3.88 ft equals elevation in NAVD 88. Therefore, OHW of 2062.5 ft NGVD 29 is 2066.4 ft NAVD 88. To lessen confusion, elevations in the body of this document are in NGVD 29.

ALBENI FALLS DAM PERTINENT DATA	
Structural Height	90 feet
Concrete Volume	136,000 cubic yards
Outflow	36,000 cubic feet per second
POWER FACILITIES	
Number of Units	3 generators
Nameplate Rating, Kilowatts	42,600 kW
Powerhouse Length, Width	301 feet x 206 feet
Turbine Type	Kaplan turbines, movable 4-blade, propeller type
Turbine Ratings, Horsepower	19,600 h.p.
Head	22-foot
Average Energy Output	200,000 megawatt-hours
SPILLWAY	
Type	Caterpillar, 2-leaf vertical lift
Total Number of gates	10
Dimensions	40 x 32 feet, each
Crest Elevation	2033 feet
Length, gated section gross	472 feet
Net opening	400 feet
Crane Capacity	100 ton
RESERVOIR	
Total Drainage Area	24,200 square miles
Length at Elevation 2062.5 ft	68 miles
Shoreline Length	226 miles
Reservoir depth	1,237 feet
Surface Area	94,600 acres
Flood stage	2,063.5 feet, measured at Hope gage
Maximum Operating Pool	2062.5 feet
Minimum Operating Pool	2049.7 feet
Normal Operating Range	2,062.5 to 2,051 feet
Storage Capacity	1,155,000 acre feet
LANDS	
Corps-administered	4,240 acres
Easement	9,256 acres of typically flowage, allows for perpetual inundation of lands below elevation 2062.5 feet, and intermittent inundation of lands between 2062.5 and the approximate 2067.5 foot contour.
Out-grant to IDFG	4,046 acres of land and water

ALBENI FALLS DAM PERTINENT DATA	
Transfer of public lands	5,138 acres (lands withdrawn from appropriation under public land laws for use by the Corps of Engineers for flowage purposes. These lands are managed by the U.S. Department of Agriculture; U.S. Forest Service, Panhandle National Forest; or the U.S. Department of Interior, Bureau of Land Management.)

1.2.2 LAKE PEND OREILLE

Lake Pend Oreille is one of the largest (94,600 acres) and deepest (1,237 feet) lakes in the western United States. The lake lies in a deep glacially carved, U-shaped valley separating three lofty mountain ranges: Cabinet, Selkirk, and the Coeur d'Alene mountains. Along approximately 65 miles of the lake's shoreline, these mountains rise precipitously and rocky form the water's edge to elevations of 5,000 to 6,000 feet. The shoreline of the combined Lake Pend Oreille and Pend Oreille River is 226 miles. The reservoir is 68 miles long, with a maximum width of 6.5 miles and an average depth of 545 feet. Major tributaries of the reservoir are the Clark Fork, Pack, and Priest Rivers. The Clark Fork River, emptying into the northeast corner of the lake, is the largest tributary, contributing about 85 percent of the inflow. Two other major tributaries - the Pack River and Priest River - both enter from the north. The Pack River flows into Lake Pend Oreille and Priest River flows into the Pend Oreille River.

1.2.3 CLARK FORK DRIFT FACILITY

As part of regular operations, AFD maintains a debris collection facility on Lake Pend Oreille at the mouth of the Clark Fork River (Figure 4), the main tributary into Lake Pend Oreille. The drift yard facility is located approximately 45 river miles upstream of AFD, near Clark Fork, Idaho. The drift yard lies on the right bank of the delta where the Clark Fork River meets Lake Pend Oreille. The facility as a whole is spread over three river miles just downstream of Clark Fork, Idaho.



Figure 4. AFD Clark Fork Drift Facility at the mouth of the Clark Fork River.

Under pre-dam conditions, debris was passed through the system during high water and/or accumulated on the lakeshore when waters receded, leaving the remaining navigational season free of floating debris. However, dam operations, with the lake held higher during the summer following the spring snowmelt, appeared to affect the amount of time drift impacted navigation activities due to the longer high-pool period. Additionally, it was surmised that the issue of floating debris would be compounded annually: less debris will be beached and more will be floatable during the boating season, and that accumulation of floatable debris over time as annual floodwaters will add to debris that was already in the system from previous years (Corps 1954).

In 1954, the Corps determined that it was in the best public interest that the drift conditions caused by operations be addressed and assumed by the Corps as an operational cost to the facility, and that federal funds be allocated for such purposes. The report recommended that a drift capture facility be built as a result of significantly extended, hazardous drift condition periods in the reservoir, unnatural and hazardous drift conditions caused by uniform and regulated lake elevations, and likely expected public demands. Longer periods of hazardous drift conditions in the reservoir were expected to cause impacts to public safety as well as the authorized project purposes of navigation and recreation. Therefore, the facility was constructed with the intent to address worsening drift conditions that were directly attributable to operations of the dam, but not to improve the drift conditions above what was observed prior to construction of the dam.

The facility operates passively by directing drift floating with the current in the main stem of the Clark Fork River through a series of boom systems (A, B, and C booms) and eventually into a drift holding facility where it is contained indefinitely. Drift typically originates from high-water events in nearby Lightning Creek during flood season, but has the potential to appear in the river and delta area year-round based on activities occurring in the area. Drift typically consists of woody debris in a variety of sizes, from small sticks to entire trees with roots intact. Occasional dock structures that have broken loose from their moorings are found in the facility or stranded along the river banks as water levels fall and structures are beached on the lakebed. Disposal options have consisted of piling the drift by mechanical means on the lakebed during low water periods, removal for conservation projects, and in the past, burning.

1.3 PURPOSE AND SCOPE OF MASTER PLAN

Master Plans provide guidance for future development and maintenance of recreation and wildlife management areas on Corps lands. They are required for civil works projects and other fee-owned lands for which the Corps of Engineers has administrative responsibility for management. A Master Plan is a planning document that deals in concepts, not in details of design or administration and it provides guidance for future development and maintenance of recreation opportunities. It is a vital tool for responsible stewardship and sustainability of the facility's resources for the benefit of present and future generations. This Master Plan guides and articulates the Corps' responsibilities pursuant to federal laws to preserve, conserve, restore, maintain, manage, and develop the land, water, and associated resources. This Master Plan does not address regional water quality, water level management, shoreline management, or the operation and maintenance of project operations facilities (i.e. dam, powerhouse, and/or spillway). The plan is flexible and subject to revisions as dictated by changing needs and conditions.

1.4 PRIOR MASTER PLANS / DESIGN MEMORANDUM

Prior to 1999, *Design Memorandums*, were the formal documents which defined engineering responsibilities, requirements, and procedures during the planning, design, construction, and operations phases of civil works projects. This system of indexing documents is no longer used per Engineering Regulation (ER) 1110-2-1150. Following is the list of the previous Master Plans for Albeni Falls Project, and the full list of Design

Memorandums, National Environmental Policy Act (NEPA) documents, and other studies can be found in Appendix A.

- The Master Plan, Development, Development and Management of Albeni Falls Reservoir. 1955
- Albeni Falls Project, The Master Plan for Development and Management of Reservoir Lands, Design Memorandum 23B. 1964
- Albeni Falls Project Master Plan, Design Memorandum 25. 1981

2 PROJECT SETTING AND FACTORS INFLUENCING MANAGEMENT AND DEVELOPMENT

2.1 DESCRIPTION OF RESERVOIR AND NAVIGATION POOLS

Construction of Albeni Falls Dam impounded a natural lake and increased storage behind the dam. This reservoir includes the top 11 feet of Lake Pend Oreille and 29 miles of the Pend Oreille River between the dam and the lake. The reservoir is a federal storage facility with an overall size of 94,600 acres and a maximum depth of 1,237 feet. The reservoir is 68 miles long, with a maximum width of 6-1/2 miles and an average depth of 545 feet. The reservoir fills a deep glacial valley that separates three mountain ranges: the Cabinets; the Selkirks; and the Coeur d'Alenes, with peak elevations in the three ranges up to 6,500 feet. For about 65 miles of the lake's 226 miles of shoreline, these mountains rise dramatically from the reservoir's edge.

Reservoir operations, including the management of water surface levels, are inextricably linked to power, flood control, fisheries, recreational, natural resource and cultural resource conditions on project lands. Since the time of the original authorization for the Project, priorities have changed in the watershed (such as the social and economic importance of recreational uses), new information is available about the life cycle and habitat needs of many fish species. In addition, the demands for water among various agencies, resources, and water users can often be competitive. While the various water uses and demands are not necessarily mutually exclusive or conflicting, they increase the complexity of lake level management.

2.2 HYDROLOGY

AFD is within the Clark Fork/Pend Oreille River Basin. The Pend Oreille River at Albeni Falls Dam has a watershed of about 24,200 square miles, supplying an average streamflow of about 25,930 cubic feet per second (cfs) in a low-gradient stream (0.1 percent). The Clark Fork River is the lake's largest tributary, bringing about 86 percent of the total inflow. About 7 percent of the inflow is supplied by the Priest River.

Historically the unregulated water surface elevation (level) of the lake fluctuated between a mean low of 2048 feet and mean high of 2061 feet MSL. The historic unregulated cycle was characterized by a rapid rise in level in spring and early summer with onset of snowmelt runoff, rapid fall in midsummer, stable fall and winter levels. The largest floods on record occurred in 1894 and 1948 when water surface elevations reached 2075.9 and 2071.6 feet MSL, respectively.

2.3 SEDIMENTATION AND SHORELINE EROSION

Localized bank erosion is common to the Albeni Falls Reservoir. The dominantly silt and clay banks are particularly subject to erosion and sloughing. In addition, due to the fluctuating winter-summer reservoir pool levels, the banks are frequently unvegetated. Wave erosion of material from the toe or slopes of these banks during low pool perpetuate their instability. Owing to low organic content and the single grain structure of the surface soils, exposed surface soils tend to erode easily because of wind, heavy

rainfall and snowmelt. These forms of erosion are common in heavily used overnight and day-use recreation areas.

Methods to control erosion are determined based on the extent of the erosion and costs. Generally, no activities are conducted along the shoreline within flowage easements (between elevation 2062 and 2067.5 MSL) by the government until encroachment or trespass has occurred beyond the easement boundaries. In situations where trespass has occurred or where structures are being threatened by continual erosion, preliminary investigations and evaluations are made and the results submitted to District elements for further evaluation. If it is determined corrective action is required, the choices include the procurement of more flowage easement or the construction of protective structures. The corrective method is chosen based primarily on comparative cost estimates for each procedure. Once the method is approved, additional easements are acquired or plans and specifications for construction are prepared.

2.4 WATER QUALITY

Water quality and wastewater treatment activities are conducted primarily within the Corps-managed recreation areas open to the public and the powerhouse. Lake and river water quality and wastewater treatment at other facilities around the project fall under the jurisdiction of the State of Idaho, Division of Environmental Quality (DEQ) and the Environmental Protection Agency (EPA). Resource personnel are responsible for coordination between the Corps and the agencies that regulate or enforce rules pertaining to the recreation area potable water systems and waste removal systems.

2.4.1 POTABLE/DOMESTIC WATER QUALITY

Potable water is provided to the Riley Creek Recreation Area through Utility Agreement #85-6 with the Laclede Water District. Priest River Recreation Area was hooked up to the Priest River City Municipal Water System in 2008. Albeni Cove and Springy Point have potable water provided through ground water well systems that are chlorinated and pumped directly to all points within the recreation areas. The Vista Area and Visitor Center, and resource shop and office areas have potable water provided by a ground water well that also serves the powerhouse. Trestle Creek does not have a potable water system.

The State of Idaho, Department of Environmental Quality, has regulatory responsibilities for water quality in the state and establishes guidelines based on minimum water quality standards determined by the EPA. These standards define, among other items, testing and retesting procedures, maximum contaminant levels, and standards for drinking water systems. Water samples for potable water and swim areas are taken in accordance with State regulations and are tested by contract with various approved laboratories. Standards established by the State and the Corps were used to develop sampling frequencies, procedures, and monitoring requirements for the project recreation areas. Current testing frequencies for potable water and swim areas are listed in Table 2 below:

Table 2. Current testing frequencies for potable water/swim areas.

TEST	FREQUENCY
POTABLE WATER	
Residual Chlorine	Daily*
Bacterial (Coliform)	Once per quarter
Nitrates	Once per year**
Radiological	None
SWIM AREAS	
Bacterial (Coliform(E-Coli)	Once per Quarter/Season
Nitrate	Once per year
* Chlorine readings must register 0.4 - 0.5 mg/l at the pump house or 0.2 mg/l at the furthest distribution point.	
** The State requires testing once every ten years. Corps requires testing yearly. Nitrates are of concern if they are ingested on a regular, long-term basis. This is generally not a problem in campgrounds due to the transitory nature of the visitors	

The frequencies listed above meet or exceed those required by the State. Additional tests are taken when conditions dictate their need. These conditions include weather conditions, activities affecting water quality (broken water lines, etc.), or when complaints are received by the public (“swimmer’s itch”, etc.). These conditions are rare and do not dictate the need for additional tests on a regular basis. The records of the water testing results are maintained at the project.

2.4.2 GROUNDWATER UNDER DIRECT INFLUENCE OF SURFACE WATER

Based on surveys by IDEQ for groundwater under the direct influence of surface water the State determined that all Corps wells have the potential to be influenced by surface water. As a result, the Corps was required to test all wells over a period of time for surface water influence. Parameters selected for testing included temperature and pH of both the well water and surface water on a daily basis for a minimum of four months between April 1995 and June 1999. Tests were conducted in 1995 for the powerhouse and Albeni Cove, in 1996 at Priest River, and in 1997 at Springy Point. Results were submitted to IDEQ following the testing period. Findings were returned for the powerhouse in 1995, which was found to have no influence. In the winter of 2000, IDEQ returned results for the recreation areas: Albeni Cove and Priest River were found to have possible influence, and Springy Point was found to have no influence. Based on these findings, IDEQ required additional testing for Albeni Cove and Priest River to confirm presence or absence of a surface water connection. This test (Microscopic Particulate Analysis) was performed in the spring and summer of 2001 at Albeni Cove, and the fall of 2002 at Priest River. All tests were returned with a score of zero, low risk. Priest River was converted over to Priest River Municipal Water System in 2008. The well was capped and covered. Riley Creek Recreation Area is on the city of Laclede’s water system.

2.4.3 WASTEWATER TREATMENT

The only wastewater treatment facility originally on Corps-operation areas was located at the powerhouse for the treatment of powerhouse effluents. All wastewater was treated

with chlorine prior to release into the tailrace. In 2011, this system was deactivated and converted to a septic field/lateral system.

2.4.3.1 Trailer Dump Stations

Trailer dump stations are provided at Priest River, Riley Creek, and Springy Point Recreation Areas. The dump stations are cleaned and sanitized on a daily basis. To prevent cross-contamination of the user's water systems, potable and non-potable water sources are separated and signed accordingly.

2.4.3.2 Septic Tank Systems

Septic systems within Albeni Cove, Riley Creek, the Vista Area, and Trestle Creek consist of tanks, lateral lines, and drain fields (the septic system at Trestle Creek consists of a tank only). Tanks are generally pumped once every one to two years or on an as-needed basis. Additives are incorporated once a year to assist in the microbial breakdown of materials. One sewage lift station is in use at Albeni Cove. Pumps are activated through a series of high and low water floats within the tanks. Effluents are pumped to a drain field located near the park gate. The lift station is equipped with a sound alarm and red light that comes on when there is a pump failure. Maintenance personnel are notified of all pump failures.

2.4.3.3 Sewer Systems

The sewer system at Priest River was rehabilitated in 1990 and connected to the City of Priest River under Contract #DACW67-89-C-0068. The system includes two grinder pumps with high and low water light and alarm. In the event of a pump failure in the systems, reset buttons to the pumps can be pressed and the pumps activated manually. Springy Point is serviced by Contract #DACW67-76-C-0013 with the Southside Water and Sewer District. Grinder pumps are located near each of the restrooms to pump the effluent to the main line. Each pump is activated similarly to that of the Cove by a series of low and high water floats. The small loop system is equipped with an alarm light only that indicates when the system has shut down. The large loop restroom is equipped with a light and a sound alarm. In the event of a pump failure in the systems, reset buttons to the pumps can be pressed and the pumps activated manually. Maintenance personnel are notified of all pump failures.

2.4.3.4 Greywater Control

Drains are provided in each campground for the disposal of greywater (waste water typically associated with sinks and other non-septic utilities). In addition, park users may flush greywater directly into the sewer and septic system facilities.

2.5 PROJECT ACCESS

The geographic distribution of Corps lands influences management. Project Operations is headquartered at the AFD (Figure 3), 55 miles from Johnson Creek Recreation Area (a sub-unit of the Clark Fork WMA, the most remote of Corps sites).

2.5.1 LAND ACCESS

All Corps lands, with the exception of Clark Fork Delta lands, Pack River, Trestle Creek, Ponder Point, and Oden Bay, are located on the north or south side of the Pend Oreille River arm of Albeni Falls Reservoir. Accessibility from U.S., state, and county roads is good. The proximity of existing recreation areas to population centers significantly influences their popularity and types of use. Potentially developable sites are relatively remote from local population centers and heavily traveled highways.

2.5.2 WATER ACCESS

There are over 35 vehicle access points for boat launching found along the Pend Oreille Lake and River (Table 3). Publically accessible facilities are both public and privately owned. Publically owned facilities are managed by the Corps, U.S. Forest Service (USFS), Idaho Department of Fish and Game (IDFG), Idaho Department of Parks and Recreation (IDPR), Bonner or Kootenai Counties, or municipalities. Privately owned facilities are open to the public, but launching fees may be required.

The reservoir is readily accessible at full pool by boat, canoe, and other watercraft, but annual drawdowns limit opportunities to launch. On publically owned launch ramps, efforts have been made to lengthen them for greater accessibility.

Table 3. Publically accessible boat access points

NAME	LAUNCH	DOCK	LOCATION	LAND OWNER / MANAGER
Albeni Cove	●	●	Albeni Cove Rd	Corps
Bayview Public Boat Launch	●		Bayview	County
MacDonald Hudson Bay Resort & Marina	●	●	Bayview	private
Bottle Bay Marina	●	●	Bottle Bay	private
Denton Slough	●		Denton Slough	Corps/IDFG
Clark Fork Drift Yard	●		Clark Fork	Corps/IDFG
Johnson Creek Recreation Area	●		Clark Fork	Corps/IDFG
Dover Marina	●	●	Dover	private
Morton Slough	●		Dufort Rd	Corps/IDFG
Farragut State Park, Button Hook Bay		●	Farragut State Park	IDPR
Farragut State Park, Eagle Launch	●		Farragut State Park	IDPR
Pend Oreille River	●		Ferry Rd	County
Garfield Bay Campground	●	●	Garfield Bay	USFS
Granite Point		●	Granite	IDFG
Hawkin's Point	●		Hawkins Point	Corps/IDFG

NAME	LAUNCH	DOCK	LOCATION	LAND OWNER / MANAGER
Holiday Shores Resort Marina	•	•	Hope	private
Hope Basin	•		Hope	County
Hope Marina	•	•	Hope	private
Island View Trailer Resort	•	•	Hope	private
Kramer Marina	•	•	Hope	private
Pringle Park	•		Hope	IDFG
Sam Owens Recreation Area	•		Hope	USFS
Cedar Creek		•	Johnson Creek Rd./FR278	private
Laclede Ferry	•		Laclede	County
Riley Creek Recreation Area	•	•	Laclede	Corps
Lakeview Boat Launch & Dock	•	•	Lakeview	County
Pack River Access	•		Pack River	Corps/IDFG
Priest River City Park	•	•	Priest River	Municipal
Priest River Recreation Area	•	•	Priest River	Corps
Lakeview Park & War Memorial Field	•		Sandpoint	Municipal
Sandpoint City Beach	•	•	Sandpoint	Municipal
Springy Point Recreation Area	•	•	Springy Point	Corps
Sunnyside Access	•		Sunnyside	IDFG
Trestle Creek Park	•		Trestle Creek	Corps
Whiskey Rock Bay Campground	•		Whiskey Rock	USFS
Willow Bay Marina	•	•	Willow Bay Rd	private

2.5.3 AMERICAN WITH DISABILITIES ACT ACCESS

With the passage of the Americans with Disabilities Act (ADA) in 1990 (PL 101-336), the Corps, as well as IDFG and local governments, have made improvement to recreation area in order to facilitate greater access for disabled visitors. Wheelchair accessible boat boarding docks, fishing docks, restrooms, picnic tables, camp sites, and trails can be found throughout the area (Table 4). Multiple Use Trails, such as those converted from former railroad right-of-way allow longer viewing access. In the Sandpoint area are three such asphalt-paved trails:

- Sandpoint Byway Trail (2.5 miles)
- Long Bridge Trail (5.3 miles) – Sagle to Sandpoint

- Little Fox / Milltown Trail (Hwy 2) – Dover through Sandpoint

Table 4. ADA Accessible Recreation Facilities

SITE	CAMP SITES	TRAILS	PICNIC TABLE	REST-ROOMS	BOARDING DOCK	FISHING DOCK
Albeni Cove Recreation Area		•	•	•	•	
Albeni Vista & Visitor's Center		•	•	•		
Hawkins Point				•	•	
Johnson Creek/Clark Fork Driftyard				•	•	
Morton Slough				•	•	
Priest River Recreation Area	•		•	•	•	
Riley Creek Recreation Area	•	•	•	•	•	•
Springy Point Recreation Area			•	•	•	
Trestle Creek			•	•	•	

As picnic tables are replaced, they are replaced with ADA compliant ones. As signs are replaced, the new ones include braille writing.

2.6 CLIMATE

AFD and the Panhandle Region² of Idaho are in the Taiga Biome, which is a climate comprised of a combination of a modified west coast marine and continental climate. Maritime influences are strongest during winter, and snowfall (frequently heavy) results when relatively warm, moist air from the Pacific Ocean is cooled as it is lifted over mountains in the basin and mixes with colder air moving south from the Arctic. Continental influences are strongest in summer with thunderstorm showers during May and June followed by hot, dry weather until mid-September.

July is the warmest month with an average daily temperature of 65 degrees Fahrenheit at Sandpoint, Idaho. January is the coldest month at Sandpoint, with an average daily temperature of 26° F. Temperature extremes range from a low of -29° F during winter to a high of 105° F during summer. Mean annual precipitation averages approximately 24 inches, including an average annual rainfall of 18 inches. The wettest months are November (2.4 inches average) and May (1.9 inches average). Snowfall can occur from October thru May, averaging 49 inches of snow per year. December and January are the heaviest snowfall months with an average of 15.8 inches and 16.9 inches, respectively.

² The Panhandle Region of Idaho (term as used by Idaho State Agencies) is comprised of Boundary, Bonner, Benewah, Kootenai, and Shoshone Counties.

2.7 TOPOGRAPHY, GEOLOGY, AND SOILS

For the most part, Corps-owned project lands are flat flood plains relieved with low slopes or lacustrine terraces. However, the topography of some sites is more varied than this. Slope on project lands can be grouped into categories of 0-10 percent, 10-20 percent, and 20+ percent. Slopes of 0-10 percent are essentially flat and are usually the most suitable sites for development. Slopes of 10-20 percent are sufficiently steep to restrict conventional construction. To develop these slopes, modified construction methods or significant topographic alternation is required. Development on slopes over 20 percent is seriously constrained.

There is a great diversity of soils in the area owing mainly to the diverse parent material and geomorphic processes. This material varies from glacially scoured bedrock to deep deposits of unconsolidated and sorted glacial and alluvial material. Throughout the area, varying thicknesses of silty wind-deposited loess are the predominant soils. In general, the upland soils of the area, which have developed over bedrock, are shallow, less fertile, and drier than the lowland soils, which have formed from thick accumulations of sediment, vegetation, and glacial drift. The low-lying project lands typically have poorly drained soils, such as silty clay, silty loam and hardpan soils. The upland project lands have varying soils from rock outcrops with minimal soil to silty loams and fine sandy loams.

2.8 RESOURCE ANALYSIS

2.8.1 ECOLOGICAL SETTING

The clear waters of Lake Pend Oreille, the varied topography of the adjacent uplands, and the environment of forest and mountains combine to make the Project one of northern Idaho's most scenic attractions. The reservoir and its surrounding territory offer a wide variety of recreational opportunities. Fishing is a year-round activity that attracts many visitors to Lake Pend Oreille. The summer season offers swimming, boating, camping, picnicking, hiking, riding, and mountain climbing. Deer, bear, and migratory game birds are plentiful and hunting is popular in the autumn. Corps recreation areas close to vehicular access during the winter season, but are open for walk-in use. Skiing and snowmobiling are principal winter activities in the region, with ice fishing active in some areas.

Project lands allow ready access to the lake. Existing project facilities provide opportunities for many types and intensities of outdoor recreation experiences, which vary from primitive boat access camping to high-density day use activities. Existing recreation facilities are heavily used during the summer. In addition to their value for human use, project lands provide thousands of acres of wildlife habitat that supports significant variety of wildlife populations, including many various species of resident and migratory waterfowl.

Scenic driving/sightseeing is a major recreation activity in the state of Idaho during the summer months, and the scenic and recreational amenities of the Lake Pend Oreille area and International Selkirk Loop are often featured in national tourist travel magazines.

Viewpoints around the lake allow visitors to stop and picnic, while the varied sites present opportunities to study nature, birds and wildlife, hike, walk, and enjoy views of the lake and dam.

2.8.2 VEGETATIVE RESOURCES

2.8.2.1 Coniferous Forests

Coniferous forests dominate the Lake Pend Oreille landscape. At higher elevations (above 3,500 feet), mature forests are dominated by Douglas fir *Pseudotsuga menziesii*), western red cedar (*Thuja plicata*), and western hemlock *Tsuga heterophylla*). At lower elevations near the water's edge, ponderosa pine (*Pinus ponderosa*), and western larch (*Larix occidentalis*) dominate, with western red cedar, Douglas-fir, and grand fir also prevalent. Northern Idaho coniferous forests are highly diverse and typically include multiple coniferous species, along with deciduous species in many areas.

Common deciduous trees in the area include paper birch (*Betula papyrifera*), aspen (*Populus tremuloides*), willow (*Salix spp.*), black cottonwood (*Populus balsamifera ssp. Trichocarpa*), and red alder (*Alnus rubra Bong.*). Most of the forests on Corps lands are second growth, ranging from 15 to over 100 years old. Forest understory is well established in open canopy forests. Alder, hawthorn (*Crataegus spp.*), snowberry (*Symphoricarpos albus*), dogwood (*Cornus sericea L.*), and serviceberry (*Amelanchier alnifolia*) predominate. These areas are important nesting and feeding habitats for numerous large and small birds and mammals.

Forest types found on Corps lands include (using NVIS classification, Federal Geographic Data Committee (FGDC) 1997):

- Open Canopy Temperate or Subpolar Needle leaved Evergreen Forests
- Closed Canopy Temperate or Subpolar Needle leaved Evergreen Forests
- Open Canopy Cold-Deciduous Forests
- Closed Canopy Cold-Deciduous Forests
- Open Canopy Mixed Needle-leaved Evergreen and Cold-Deciduous
- Closed Canopy Mixed Needle-leaved Evergreen and Cold-Deciduous

Northern Idaho Forest Habitat Types (NIFHT) found on project lands include (from USFS classification, Cooper et al 1991):

- Western Red Cedar/Lady Fern (*Thuja plicata/Athyrium filix-femina*)
- Western Red Cedar/Queencup Beadlily (*Thuja plicata/Clintonia uniflora*)
- Western Hemlock/Queencup Beadlily (*Tsuga heterophylla/Clintonia uniflora*)
- Grand Fir/Queencup Beadlily (*Abies grandis/Clintonia uniflora*)
- Grand Fir/Ninebark (*Abies grandis/Physocarpus malvaceus*)
- Grand Fir/Ninebark (Goldthread phase) (*Abies grandis/Physocarpus malvaceus*)

- Douglas Fir (*Pseudotsuga menziesii*)
- Douglas Fir/Ninebark (*Pseudotsuga menziesii/Physocarpus malvaceus*)
- Douglas Fir/Common Snowberry (*Pseudotsuga menziesii/Symphoricarpos albus*)
- Ponderosa Pine/Common Snowberry (*Pinus ponderosa/Symphoricarpos albus*)

2.8.2.2 Shrub-lands

A shrub-land is dominated by the shrub layer rather than trees. A shrub-land occurs as a climax structure when conditions are not conducive to tree growth, such as excessively wet conditions or poor soils. It occurs as an early seral community that will be replaced by forest on more hospitable sites. A meadow is typically maintained in herbs and grasses through selective management. Types of shrub-lands communities found on Corps lands include upland shrubs (hawthorn/snowberry), savannah (with ponderosa pine), meadows, and riparian (transition between cottonwood riparian vegetation and wetlands, dogwood/snowberry, alder/willow).

2.8.3 WETLANDS

Wetlands are areas that are inundated or saturated by surface or ground water at a magnitude, frequency, and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetland communities comprise about 69 percent of the 4,237 acres of fee lands, and provide valuable fish and wildlife food, cover, and nest sites.

The 4,046 acres of project lands which are licensed for wildlife management to the IDFG are a combination of wetland and riparian communities. They consist primarily of wet meadows, shallow marsh, deep marsh and submerged aquatic beds. Wetlands found on project lands are classified under the Cowardin system (Cowardin et al 1979) (National Wetland Inventory) as specified in Table 5 below.

Table 5. Cowardin Wetland Classifications for Wetlands found on Corps lands.

CODE	DEFINITION
L1OWHh	Lacustrine/Limnetic/Open water-unknown bottom/Permanently flooded
L1UBH	Lacustrine/Limnetic/Unconsolidated bottom/cobble-gravel
L1UBHh	Lacustrine/Limnetic/Unconsolidated bottom/ Permanently flooded/Dike impounded
L2AB3H	Lacustrine/Littoral/Aquatic bed/Aquatic moss/Permanently flooded
L2AB4C	Lacustrine/Littoral/Aquatic bed/Aquatic moss/Seasonally flooded
L2AB4H	Lacustrine/Littoral/Aquatic bed/aquatic moss/Permanently flooded
L2UBF	Lacustrine/Littoral/Unconsolidated bottom/Sand
L2UBH	Lacustrine/Littoral/Unconsolidated bottom/Sand
L2USC	Lacustrine/Littoral/Unconsolidated shore/Sand

CODE	DEFINITION
PEM1/SS1C	Palustrine/Emergent/Persistent/Scrub-shrub/Broad-leaved deciduous/Seasonally flooded
PEM1C	Palustrine/Emergent/Persistent/Seasonally flooded
PEM1F	Palustrine/Emergent/Persistent/Semi-permanently flooded
PFO1A	Palustrine/Forested/Broad-leaved deciduous/Temporarily flooded
PFO1C	Palustrine/Forested/Broad-leaved deciduous/Seasonally flooded
PFO4A	Palustrine/Forested/Needle-leaved Evergreen/Temporarily flooded
PFO4C	Palustrine/Forested/Needle-leaved Evergreen/Seasonally flooded
PSS1C	Palustrine/Scrub-shrub/Broad-leaved deciduous/Seasonally flooded
PUBH	Palustrine/Unconsolidated bottom/Permanently flooded
R3UBH	Riverine/Upper

2.8.3.1 Aquatic Bed and Lacustrine Littoral Vegetation

Aquatic vegetation found along shorelines of the lake and the river corresponds to water depth and form somewhat concentric rings. Floating-leaved pondweed (*Potamogeton natans*), watermilfoil (*Myriophyllum spp.*), bladderwort (*Utricularia spp.*), and other pondweed species (*Potamogeton spp.*) occur alone or in combination in shallow littoral zones (<6.5 feet). Yellow pond lily (*Nuphar polysepalum*) and water shield (*Brasenia schreberi*) are frequently present as monocultures in deep littoral zones. Large leaved pondweed (*Potamogeton amplifolius*), white stalked pondweed (*Potamogeton praelongus*), and Richardson's pondweed (*Potamogeton richardsonii*) are common in limnetic zones (>6.5 feet) (Jankovsky-Jones 1997).

Over the last decade, the amount of aquatic vegetation has become a concern for residents and visitors to the region. Excessive amounts of aquatic vegetation seasonally die and cause unpleasant odors and reduce dissolved oxygen concentrations in the water. Of particular concern is the invasive Eurasian watermilfoil (*Myriophyllum spicatum*), described in more detail in the subsection on Exotic and Invasive Species (Section 2.8.4), below.

2.8.3.2 Emergent (Herbaceous) Vegetation

Herbaceous wetlands on project lands usually occur as a complex of monocultures dominated by sedges (*Carex spp.*), bulrushes (*Scirpus spp.*), creeping spikerush (*Eleocharis palustris*), and common cattail (*Typha latifolia*). Water lady's thumb (*Polygomim amphibium*) may occur on lake or pond shores. Grasslands and seasonally flooded wetlands are mostly dominated by the non-native reed canarygrass (*Phalaris arundinacea*) with occasional tufted hairgrass (*Deschampsia cespitosa*), bluejoint reedgrass (*Calamagrostis canadensis*), or sedges (*Carex spp.*) (Jankovsky-Jones 1997).

2.8.4 INVASIVE SPECIES

Exotic and invasive species are often found in areas of disturbance. Species of particular concern include Eurasian watermilfoil (*Myriophyllum spicatum*)³, reed canarygrass,

³ Not to be confused with the native milfoil, whorl-leaf watermilfoil (*Myriophyllum verticillatum*).

flowering rush, spotted knapweed (*Centaurea stoebe*), and yellow-flag iris (*Iris pseudacorus*). In addition to plant species, aquatic mussels are also a concern. These include Asian clams (*Corbicula fluminea*), zebra mussels (*Dreissena polymorpha*), and quagga mussels (*D. rostriformis bugensis*). The Corps works cooperatively with the Natural Resource Conservation Service (NRCS), Idaho State Department of Agriculture (ISDA), and United States Fish and Wildlife Service (USFWS) in monitoring and/or treating invasive species.

2.8.4.1 Plants

In 1998, Eurasian watermilfoil was identified in the river upstream of the dam. Pockets were found near Albeni Cove, Strong's Island, and along the shoreline to Priest River. Herbicidal and mechanical treatments were attempted in 1998 through 2009 with limited degrees of success. This species is killed by freezing temperatures (72 or more hours), so colonies are prevented from becoming established in areas exposed during winter drawdown (between 2062 and 2051 ft). However, additional investigations are ongoing to determine the best methods to control milfoil above the dam.

In 2007 flowering rush (*Butomus umbellatus*) was discovered in Lake Pend Oreille at the Clark Fork Drift Yard (Johnson Creek Wildlife Management Area (WMA)). The initial infestation was approximately 10 acres, but as of 2014, the plant can be found throughout the reservoir. The plant has passed through AFD, and the infestation has continued further downstream. Starting in 2012, treatments have been conducted in the Clark Fork WMA and/or Oden Bay WMA.

Reed canarygrass (*Phalaris arundinacea*) is well established in many wetlands around the lake. Reed canarygrass forms monotypic stands that crowd out native species and prevents native species from natural succession. Reed canarygrass can provide suitable habitat for amphibian breeding in areas of seasonal inundation and can also provide suitable nesting habitat for geese and some waterfowl, but generally provides lower quality habitat for wildlife than native plant communities.

Spotted knapweed (*Centaurea stoebe*) is an aggressive weed species that rapidly invades disturbed open canopy forests and grasslands. Its taproot allows it to tolerate drought, accessing water deep in the soil. This weed reduces native plant and animal diversity by secreting allelochemicals that poison would-be competitors (Kaufman and Kaufman 2007). Because the plant is taprooted rather than having more shallow fibrous roots like many of the native grasses and herbaceous plants, it can degrade soil and water resources by increasing erosion, surface runoff, and stream sedimentation (Kaufman and Kaufman 2007). Specimens have been found on Corps lands, especially recently constructed projects such as shoreline revetments.

Yellow-flag iris (*Iris pseudacorus*) is an aquatic perennial that is commonly sold as a plant for water gardens, and has been used to take up metals and nutrients in wastewater treatment plants (Kaufman and Kaufman 2007). It grows in nutrient-rich marshes, ditches, and other wet areas in shallow water (less than 10 inches deep).

The iris displaces native wetland vegetation as it expands into dense clumps that exclude other wetland species. The root system forms a dense mat which compacts soil and inhibits seed germination of other plants. Large yellow-flag iris populations may also reduce the habitat available to native fish and waterfowl.

2.8.4.2 Mussels

In 2012, Asian clams (*Corbicula fluminea*) were found in Ellisport Bay (near the town of Hope). Although these species have the ability to biofoul (growing rapidly to the point of clogging) water systems, it also competes with native species for resources. This species lives in the muddy substrates and does not adhere to surfaces the way other mussels do, although they can travel in mud stuck to boats or in boat's water wells.

Zebra mussels (*Dreissena polymorpha*) and quagga mussels (*D. rostriformis bugensis*) are small freshwater mussels that have the ability to colonize rapidly hard surfaces causing serious economic problems in states where they have been introduced. In addition, they are prodigious water filterers, removing substantial amounts of phytoplankton and suspended particulate from the water, which decreases the food source for zooplankton, therefore altering the food web (U.S. Geological Service (USGS) 2017). The Corps conducts surveys (veliger sampling) in the reservoir, the ISDA conducts boat inspections to monitor for these species, and to date they have not been found.

2.8.5 THREATENED AND ENDANGERED SPECIES

At the time of publishing this Master Plan, federally listed threatened or endangered species near AFD and project lands include one species listed as Endangered and three species listed as Threatened, one species listed as proposed Threatened, and one candidate species (Table 6). In addition, the Pend Oreille River has been designated as Critical Habitat for bull trout (*Salvelinus confluentus*) by the USFWS. The Corps is required to consult with the USFWS on any management actions that might affect federally listed species. Additional information on threatened and endangered species and other species of concern is provided in Appendix B.

Table 6. Protected species potentially occurring on Corps lands

COMMON NAME	SCIENTIFIC NAME	LISTING STATUS	CRITICAL HABITAT
Bull trout	<i>Salvelinus confluentus</i>	Threatened	Designated
Canada Lynx	<i>Lynx canadensis</i>	Threatened	Designated – not on Corps lands
Woodland caribou	<i>Rangifer tarandus caribou</i>	Endangered	Designated – not on Corps lands
Grizzly bear	<i>Ursus arctos horribilis</i>	Threatened	Proposed
North American wolverine	<i>Gulo gulo luscus</i>	Proposed Threatened	N/A
Whitebark Pine	<i>Pinus albicaulis</i>	Candidate	N/A

While several endangered/threatened animal and plant species may exist in habitats near the Corps lands, the bull trout is the only species known to be a resident. Management and Recovery Plan development for these species has been the responsibility of other federal and state agencies; Corps management is expected to ensure that Corps activities do not disturb or affect habitats or the species themselves, thereby avoiding a 'take' situation in which a listed species or their habitat has been disturbed. Areas where threatened or endangered species are known to occur on project lands are classified as Environmentally Sensitive Areas under the Corps Land Use Classification system. Environmentally Sensitive Area designations at the time of publishing this Master Plan are presented in Section 4.3

Brief descriptions are provided below of the life history and preferred habitats of the all the federally listed, proposed listed, and candidate species that could potentially occur.

2.8.5.1 Bull trout (*Salvelinus confluentus*)

In 1998, the Columbia River and Klamath River populations of bull trout were listed as a threatened species and in 2010 the previous (2005) critical habitat designation was revised to include the Pend Oreille River from the crest of Boundary Dam upstream 100.8 mi to Lake Pend Oreille (Long Bridge at Sandpoint, Idaho) (70 FR 63898). The revision also added Lake Pend Oreille and much of the Clark Fork, the entirety of the Priest River to and including Priest Lake, and other tributaries to the Pend Oreille, Priest and Clark Fork rivers.

In response to the 2000 USFWS Federal Columbia River Power System (FCRPS) Biological Opinion (BO), the Corps initiated studies aimed at helping determine the necessity and feasibility of fish passage at AFD. The results of completed studies indicate that bull trout above AFD end up downstream of the dam by passing over the spillway during high-flows or through the turbines. Once below the dam, they attempt to migrate back upstream to reach their natal spawning tributaries, cold-water refuge and forage habitat of Lake Pend Oreille. Because upstream passage is not available, bull trout are unable to migrate upstream and must remain in the shallow waters of the Pend Oreille River, limited to cold water refugia during warm water periods. In addition, because upstream passage is not available, sub-adult bull trout that migrate out of tributaries below AFD are not able to migrate back to Lake Pend Oreille to rear to adults. In late summer, water temperatures below AFD rise to levels adverse to bull trout, which results in the annual mortality of bull trout below the dam.

According to USFWS (2002 and 2008), some of the Lake Pend Oreille bull trout demonstrate the most common migration pattern for adult bull trout by moving upstream from Lake Pend Oreille into smaller tributaries to spawn. However, adult bull trout may exhibit a downstream migration pattern where adult fish move downstream from a lake system and spawn either in a main stem river, or in a smaller tributary stream. This downstream migration pattern is believed to have occurred in the Pend Oreille River Basin by some fish in Lake Pend Oreille. These down-migrating adult bull trout would migrate out of Lake Pend Oreille, down the

Pend Oreille River and then into tributary streams (upstream and downstream of AFD) to spawn, with the offspring eventually returning to the lake, with the exception of one remaining stock in the Priest River basin. This migration pattern however was eliminated with the construction and operation of AFD in 1952 (USFWS 2002). In addition, the remaining example of the life history is a bull trout stock that continues to spawn in the Middle Fork East River, a tributary of the Priest River upstream of AFD, but downstream of Lake Pend Oreille (USFWS 2008). This stock is small and at high risk of extirpation.

2.8.5.2 Canada lynx (*Lynx canadensis*)

The distribution of lynx in Idaho is closely associated with the distribution of boreal forest and sub-alpine forests. Within these general forest types, lynx are most likely to persist in areas that receive deep snow and have high-density populations of snowshoe hares, the principal prey of lynx. Because of this habitat preference, they are not expected to be found in the lower valley areas of Lake Pend Oreille and the Pend Oreille River.

2.8.5.3 Woodland caribou (*Rangifer tarandus caribou*)

Historically, woodland caribou inhabited the forests of the northern United States from Maine to Washington State. This range for this species is now reduced to one small herd in the Selkirk Mountains of northern Idaho, eastern Washington and southern British Columbia. Caribou are generally found above 4000 ft elevation in Engelmann spruce/sub-alpine fir and western red cedar/western hemlock forest types. The Selkirk herd is reduced to approximately 25 to 30 animals that tend to stay mostly in the Canadian part of its range; therefore, caribou are not expected to be found in the lower valley areas of Lake Pend Oreille and the Pend Oreille River.

2.8.5.4 Grizzly bear (*Ursus arctos horribilis*)

Grizzly bears need a very large home range (50 to 300 square miles for females; 200 to 500 square miles for males), encompassing diverse forests interspersed with moist meadows and grasslands in or near mountains. It is generally reclusive and sensitive to human disturbance; interactions with humans, which do occur, are mainly in undeveloped or lightly developed areas, and then usually in the presence of nuisance attractions such as unsecured garbage. The bears are mostly solitary except during mating, and in the case of females rearing cubs. Grizzlies are omnivorous, foraging on berries, leaves, bulbs and roots as well as insects, small mammals, carrion, occasional larger mammals, and fish. They hibernate in winter after feeding heavily in late summer and fall to store reserves, and then emerge in spring and begin replenishing weight lost during hibernation. Because of the generally developed nature of the surrounding area (residents adjacent to site and camping and boating activities in area) and high degree of habitat fragmentation, no grizzly bear use of the area is expected.

2.8.5.5 North American Wolverine (*Gulo gulo luscus*)

Wolverines are opportunistic feeders and consume a variety of foods depending on availability. They primarily scavenge carrion, but also prey on small animals and birds, and eat fruits, berries, and insects. Wolverines require large territories; the

availability and distribution of food is likely the primary factor in determining wolverine movements and home range size. Wolverines travel long distances over rough terrain and deep snow, and adult males generally cover greater distances than females. Because of the generally developed nature of the surrounding area (residents adjacent to site and camping and boating activities in area) and high degree of habitat fragmentation, no wolverine use of the area is expected.

2.8.5.6 Whitebark Pine (*Pinus albicaulis*)

Whitebark pine occurs in high-elevation cold conditions in both the northern and southern parts of Idaho. Ecologically, whitebark pine is important: its seeds are a valued wildlife food for birds, squirrels, black and grizzly bears. Whitebark pine also is important in reducing avalanche potential and soil erosion. Whitebark pine, like western white pine, is a five-needle, white pine that is very susceptible to the introduced white pine blister rust disease. Stands have also declined as a result of fire suppression efforts and mountain pine beetle attacks, which has allowed subalpine fir (*Abies lasiocarpa*) and Engelmann spruce (*Picea engelmannii*) to increase on many sites with the whitebark pine. These species can continue to grow in the shade of other trees, but the whitebark pine does not tolerate as much shade and over time is replaced. Due to this plant's preference for high alpine habitats, it is not expected to be found along the lower elevations along Lake Pend Oreille and the Pend Oreille River.

2.8.5.7 Other Species of Concern

In addition to the federally listed species, several state-listed threatened, endangered, or sensitive species may occur on or utilize project lands and waters. These species were identified through the Idaho Conservation Data Center (ICDC) and IDFG databases and are listed in Appendix B.

Approximately 50 species of vascular plants and mosses listed by the State occur in Bonner County. As a complete inventory has yet to be conducted on Corps lands, it is not known how many of these species could occur.

Over 60 species of animals that are potentially present on Corps lands are ranked priority 1 or 2 by the State⁴, including 23 birds, 9 mammals, 3 fish, and 2 reptiles. While specific inventories have not been conducted to verify the presence of some of the listed animals, their presence has been documented through sightings, surveys, and other data (for example, the northern alligator lizard and common loon are known to exist on Corps lands based on sightings and surveys).

⁴ 1 = Critically imperiled because of extreme rarity or because some factor of its biology makes it especially vulnerable to extinction

2 = Imperiled because of rarity or because other factors demonstrably make it very vulnerable to extinction

2.8.6 FISH AND WILDLIFE RESOURCES

2.8.6.1 Fish

The Clark Fork watershed, Lake Pend Oreille, and the Pend Oreille River provide habitat for a variety of native and nonnative fish. Cold-water species tend to occupy the deeper waters of the lake while the warm water species are more prevalent in the near-shore areas and the river. Prevalent species include kokanee (*Oncorhynchus nerka*), bull trout (*Salvelinus confluentus*), rainbow trout (*O. mykiss*), cutthroat trout (*O. clarkii*), bass (*Micropterus spp.*), whitefish (*Prosopium spp.*), perch (*Perca spp.*), and sunfish (*Lepomis spp.*). The significant sport fishery targets trout in the cooler waters and bass in the warmer. In the lake proper, the kokanee fishery had been closed in the past due to the decline in populations. However, with an ongoing increase in population, current regulations allow for 15 fish per day. Some native species include northern pikeminnow (*Ptychocheilus oregonensis*), peamouth (*Mylocheilus caurinus*), and reidside shiner (*Richardsonius balteatus*). The only native salmonids are westslope cutthroat trout (*Oncorhynchus clarkii lewisi*), bull trout, pygmy whitefish (*Prosopium coulteri*), and mountain whitefish (*Prosopium williamsoni*) IDFG, 2013).

2.8.6.2 Wildlife

The Lake Pend Oreille area supports a rich diversity and abundance of wildlife species. Seasonal fluctuations in wildlife numbers and diversity are significant due to the presence of large numbers of migratory wildlife that frequent the area. The following discussion is a summary of information regarding important wildlife features of the project environment. Distribution by habitats, seasonal abundance, and food requirements are major elements of the discussion. Species lists with common and scientific names can be found in Appendix B.

2.8.6.2.1 Birds

2.8.6.2.1.1 Waterfowl

Numerous waterfowl species have been sighted in the Clark Fork watershed, Lake Pend Oreille, and the Pend Oreille River including mallard (*Anas platyrhynchos*), wood duck (*Aix sponsa*), teal (*Anas discors* or *A. cyanoptera*), gadwall (*Anas strepera*), common merganser (*Mergus merganser*), and Canada goose (*Branta canadensis*). Recent surveys lead by Boise State University in conjunction with Corps have recorded over 120 species in the area (Carlisle et al 2015). Bird lists for the area are available on the eBird website⁵. During spring and fall migrations, the delta supports thousands of waterfowl and common loons (*Gavia immer*). These waterfowl species include tundra swans (*Cygnus columbianus*), Canada geese, redhead ducks (*Aythya Americana*), lesser scaups (*Aythya affinis*), common goldeneyes (*Bucephala clangula*), common mergansers (*Mergus merganser*), and mallards. Birds of prey inhabiting riparian and upland areas include hawks (*Buteo spp.*), owls (*Asio spp.*, *Strix spp.* and/or *Bubo virginianus*), and ospreys (*Pandion*

⁵ <http://ebird.org/ebird/explore> and in Bonner County specifically <http://ebird.org/ebird/subnational2/US-ID-017?yr=all>

halaetus), and bald eagles (*Haliaeetus leucocephalus*). Other birds include the great blue heron (*Ardea herodias*) that is a year-round resident.

2.8.6.2.1.2 Raptors

Raptors using the area along the lake include numerous species of owls, hawks, osprey, and bald and golden eagles (*Haliaeetus leucocephalus* and *Aquila chrysaetos* respectively). Owls and hawks nest in riparian trees and open woodlands and hunt small birds and mammals in forested areas and open grasslands. Riparian cottonwood areas and nearby evergreen forests are important nesting habitats for the osprey, whereas shallow water habitats are of particular importance as foraging areas. The osprey is an area resident from mid-March through October. Bald eagles, winter in large numbers around the lake from October through March. They perch in tall trees and snags in riparian habitats or on surrounding hillsides. Their major food sources are spawned kokanee salmon, weakened waterfowl, and carrion.

2.8.6.2.1.3 Other Avian Species

This group includes wading birds, shore birds, gulls, upland game birds, and passerines (perching birds). Wading birds, including sora (*Porzana Carolina*), Virginia rail (*Rallus limicola*), and American bittern (*Botaurus lentiginosus*), inhabit dense emergent vegetation around the lake. Great blue heron is a resident species that breed in the summer. Significant shore bird populations occur during migration, with the highest concentrations occurring in spring. Species include killdeer (*Charadrius vociferous*), spotted sandpiper (*Actitis macularius*), and American avocet (*Recurvirostra americana*). The most common gulls seen are California and ring-billed (*Larus californicus* and *L. delawarensis* respectively) although other species are possible as migrants or uncommon summer residents.

Upland game birds generally prefer upland habitat for food, cover, and nesting but may be found in riparian cover as well. Lake Pend Oreille upland game birds include ruffed grouse (*Bonasa umbellus*), ring-necked pheasant (*Phasianus colchicus*), mourning dove (*Zenaida macroura*), and wild turkey (*Meleagris gallopavo*).

Passerine species are numerous, with summer resident-only species predominating. Summer and spring/summer/fall resident-only species generally nest, forage, and utilize riparian and adjacent habitats. Species include vireos, warblers, thrushes, swallows, and numerous others (Carlisle et al 2015). Wintering passerine species are less abundant and include wrens, magpies (*Pica hudsonia*), and dippers (*Cinclus mexicanus*). Blackbirds and wrens are the most common breeding passerine species in marsh areas. Swallows, warblers, and sparrows forage in and over marsh habitats but nest in riparian forests and other habitats.

2.8.6.3 Mammals

2.8.6.3.1.1 Large Mammals

Large mammals include species such as black bear (*Ursus americanus*), elk (*Cervus elaphus*), moose (*Alces alces*), mule and whitetail deer (*Odocoileus hemionus* and *O.*

virginianus), mountain goat (*Oreamnos americanus*), and bighorn sheep (*Ovis canadensis*). A sparse population of grizzly bear (*Ursus arctos*) and mountain lion (*Puma concolor*) is also present in the Lake Pend Oreille region. Excepting grizzly bear, all are game animals in Idaho. The large mammal species generally spend their summers in the forested mountains and come to lower elevations in the winter months, but they have been reported in areas around Lake Pend Oreille at all times of year. White-tailed deer spend both summer and winter seasons in deciduous and riparian habitats near the lake and prefer habitat in the Clark Fork and Pack River Deltas. Mountain goats winter in small numbers on the hills and bluffs bordering the lake near Bay View at the extreme southern end of the lake.

2.8.6.3.1.2 Small Mammals

Small mammal species are both notable and fairly abundant. Numerous carnivores, including coyote (*Canis latrans*), fox (*Urocyon spp.* and *Vulpes spp.*), lynx (*Lynx canadensis*), and badger (*Taxidea taxus*), have been identified in the forested habitats around the lake. Other small mammals, including beaver (*Castor canadensis*), river otter (*Lontra canadensis*), muskrat (*Ondatra zibethicus*), marmot (*Marmota spp.*), and mink (*Mustela vison*), can be found in project lands. The river otter is uncommon, and beaver, muskrat, mink, and weasel are not abundant. Beaver activity is higher in slough and river areas than in the lake. Muskrat are found primarily at the Pack River Delta. Mink nest in riparian habitats and along tributary drainages, but forage chiefly in marsh areas. In addition to these, numerous species such as shrews, mice, squirrels, rabbits, raccoons, voles, and bats make up the balance of small mammals associated with riparian and upland habitats on project lands.

2.8.6.4 Reptiles and Amphibians

The variety of aquatic, riparian, and upland habitats support several species of reptiles and amphibians but in numbers notably less than in warmer regions of the United States. According to IDFG, approximately 14 species live in the northern Idaho Panhandle Region (IDFG 1994). Of the reptiles, there are several species of lizards, non-poisonous snakes, and the native painted turtle (*Chrysemys picta*). Commonly heard are Pacific chorus frogs (*Pseudacris regila*) or western toads (*Bufo boreas*) which live near water. Also found are two species of salamanders, the long-toed and Coeur d'Alene (*Ambystoma macrodactylum* and *Plethodon idahoensis*).

2.8.7 CULTURAL RESOURCES

Cultural resources are defined as sites, structures, objects, or practices that reflect prehistoric or historic habitation, and traditional knowledge and practices by humans. Cultural resources are non-renewable and therefore must be managed with sufficient care to ensure their preservation. The most common potential causes of loss of cultural resources include landscape modifications, erosion, vandalism, and artifact collecting. Through requirements of historic preservation policies in public laws, executive orders, and Corps regulations, it is the responsibility of the Corps to ensure the identification and protection of prehistoric and historic cultural resources located on project lands controlled and/or owned by the Corps.

For the purposes of cultural resources, the Albeni Falls Dam and Pend Oreille Lake Project (Albeni Falls Project or AFD) is defined as a federal hydroelectric and local flood control facility constructed in the early 1950s in Bonner County, Idaho. The AFD Area of Potential Effect (APE) is currently calculated as the area between the 2,051 feet msl and the outer project real estate boundaries, which is a total of 16,489 acres and includes Corps land, less than fee estate such as flowage easement estates, or license from lands in private, U.S. Forest Service or state or local government ownership. A total of 416 known archaeological sites are located within the APE. In addition to the archaeological sites there are four historic districts within the APE. The most pertinent historic district for the Master Plan is the Albeni Falls Dam historic district.

2.8.7.1 Consultation under Section 106

Cultural resources at AFD are addressed under Section 106 of the National Historic Preservation Act (NHPA) of 1966 (Public Law 89-665), as amended and this is accomplished through the implementation of the *Systemwide Programmatic Agreement for the Management of Historic Properties affected by the Multipurpose Operations of Fourteen Projects of the Federal Columbia River Power System for Compliance with Section 106 of the National Historic Preservation Act* (Systemwide PA). The Systemwide PA outlines the Section 106 process and includes an attachment titled “Routine Activities under the FCRPS Systemwide PA that do not require Section 106 Consultation”. This attachment, also known as Attachment 6, is utilized for routine activities at AFD and recreation areas that are considered to have little to no potential effect. The routine activity must meet the conditions of Attachment 6. Table 7 lists the routine activities that do not require formal Section 106 consultation. If an activity does not meet the conditions of Attachment 6 then Section 106 consultation will occur. The decision regarding if a routine activity meets conditions of Attachment 6 is determined by a cultural resources specialist who reviews the project and applicable information to determine if the activity meets the conditions of Attachment 6.

Table 7. Categories of routine activities that do not require formal Section 106 consultation.

Item	Type of Activity – Formal Section 106 not required
1	Transfer of real estate from a Lead Federal Agency to another Federal agency with equal responsibility for compliance and that has cultural resource specialists that meet the Secretary of the Interior’s standards.
2	Blading, ground clearing, or excavation that occurs entirely within fill, and the fill itself does not contribute to the historic significance of a property.
3	Blading, ground clearing, or excavation within areas where existing ground disturbance entirely encompasses the area that would be affected by the activity and where the past disturbance was so severe as to preclude the existence of intact cultural deposits, and no known properties are present.
4	Use of existing gravel pits, including further materials extraction and stockpiling within the pit, where no lateral expansion of the previously excavated area of the pit will occur.
5	Replacement or restoration of existing rip rap within the demonstrated vertical and horizontal limits of previous construction or disturbance.

Item	Type of Activity – Formal Section 106 not required
6	Adding rock fill or gravel to roads where no new ground disturbance will occur and no recorded properties are within the roadbed.
7	Treatment of weed infestations that does not violate the chemical label, does not involve ground disturbance, where no features (such as pictographs or petroglyphs) that might be damaged are present, and does not occur within landscaped areas where native plant communities might be harvested.
8	Encroachment thinning using hand methods to lop branches and cut small trees and brush, where material is dropped in place, stumps are left in place, and no chemical treatments are used. This would not include areas with culturally modified trees.
9	Routine maintenance and repair to interiors or exteriors of existing buildings and structures that are <i>less than 50 years old</i> (subject to limitations defined above), or have been determined “not eligible” for the National Register in consultation with the SHPO/THPO, and where there are no other properties in the immediate vicinity.
10	Maintenance or repair of fence lines that are <i>less than 50 years old</i> , where no ground disturbance occurs, or the fence line is on fill, there will be no movement, removal, or alteration of rock, and where the fence is not located within the boundaries of an historic property, or where the property has been determined “not eligible” for the National Register in consultation with the SHPO/THPO.
11	Rodent control that does not involve ground disturbance, no movement, removal, or alteration of rock, or contamination of native or traditional foods and plant fibers
12	Installation, repair, or replacement of signs and markers on existing buildings or structures that are <i>less than 50 years old</i> , where there is no visual intrusion to nearby historic properties.
13	Installation, repair, or replacement of signs and markers where no ground disturbance will occur, or where installation is confined to disturbed areas or fill, and without movement, removal, or alteration of rock.
14	Installation, repair, or replacement of monitoring equipment where no ground disturbance occurs, there will be no movement, removal, or alteration of rock, the activity is not located within the boundaries of an historic property, or where the property has been determined “not eligible” for the National Register in consultation with the SHPO/THPO. Examples of such equipment are stream flow or dissolved gas gauges, weather stations, animal traps, and security monitoring or transmitting devices.
15	Excavations for maintaining, removing, or replacing tile, ditches, fire lines, dikes, levees, pipes, pipelines, cables, telephone lines, fiber optic lines, signs, gates, or cattle guards, when the property or items are less than 50 years in age or have been determined “not eligible” in consultation with the SHPO/THPO, where they are not within or part of an historic property, and where excavations, including heavy equipment operation, occur within the demonstrated vertical and horizontal limits of previous construction, and within previously surveyed areas.

Item	Type of Activity – Formal Section 106 not required
16	Small bore (less than 6 inch diameter) drilling within areas previously surveyed and outside of known property areas.
17	Repair, replacement, and installation of energy conservation, health and life safety, accessibility, and security measures that do not affect the historic or architectural values and character-defining features of historic properties, and do not involve ground disturbance. Examples of activities that would NOT be included are: removal, replacement, reconstruction, or reconfiguring of original staircases, windows, or doors, or their openings; cutting new door or window openings on public facades; or introducing visually intrusive new materials or structures on public facades or into contributing surrounding landscapes. Any alteration of historic buildings implemented under this category will comply with the Secretary of the Interior’s Standards for Rehabilitation (36 C.F.R. part 67), and will be reversible
18	Repair or replacement of equipment or material that is not original to a historic structure and where the replacement will not cause an effect upon the historic or architectural values and defining features of historic properties.
19	Maintenance of existing trails, walks, paths, sidewalks, and associated signage, and work is conducted within the demonstrated vertical and horizontal limits of previous construction or disturbance, and no known properties are within the work area.
20	Maintenance within existing road or parking lot profiles, such as repaving, grading, cleaning inboard ditches, repairing, brushing, signing and sign maintenance or replacing guards and gates within the demonstrated vertical and horizontal limits of previous construction or disturbance.

2.8.7.2 Coordination with Tribes

Consistent with 36 C.F.R § 800.14(f)(1), an affected Indian tribe includes Federally recognized tribes that attach religious and cultural significance to historic properties potentially affected by the undertaking, and Federally recognized tribes with jurisdiction over tribal lands on which the undertaking has the potential to affect historic properties. Federally recognized tribes for the AFD area are the Kalispel Tribe of Indians, Confederated Salish and Kootenai Tribes, Kootenai Tribe of Idaho, Spokane Tribe of Indians, and Cœur d’Alene Tribe.

2.8.8 INTERPRETATION / VISUAL QUALITIES

The Visitor Center, built in 1995, replaced an older log-construction information center. It is located on a major highway route and is a gateway into the state of Idaho. The center is designed so that the restroom portion may remain open 24 hours a day every day of the week. The exhibit and theater areas are open to the public 7 days a week Memorial Day through Labor Day as staffing allows. In the fall, winter and spring, these areas are open as staffing allows. The center serves as the starting point for the powerhouse tour program. Interpretive exhibits inform visitors about the Corps of Engineers role in hydropower, water storage, flood control, resource management and emergency response.

The interpretative services and outreach program at Albeni Falls serves as a communication link between the public and the Corps. The interpretative program is an effective management tool to inform the public of agency goals and uses interpretive messages to reveal the relationship the public has with the missions of the Corps of Engineers. The goal of the interpretative program at AFD is to inform the public of the multiple missions of the Corps at AFD through exhibits, video productions, presentations and publications.

2.8.9 SOCIOECONOMICS

Socioeconomic characteristics can influence the use and management of project lands and resources. For example, higher unemployment levels, lower incomes, and rapidly increasing population within the primary market area of project recreation sites would likely increase visitation, primarily for day use activities. These day-use resources include swimming beaches, boat launches, picnic areas, and active game areas/play fields. Conversely lower unemployment levels, and/or higher incomes could be expected to result in higher visitation from secondary/tertiary (remote) market areas and might include more campers. In addition, as approximately 20 to 25 percent of the campers are international visitors, primarily from Canada, the value of the international funds against the U.S. dollar would also affect visitation. Those traveling to Corps lands from secondary and tertiary markets would be expected to stay for longer periods, and require more services than those from the primary market area.

The following subsections provide a summary of socioeconomic conditions in the immediate region of influence of the Project (defined for the purpose of this plan as Bonner County, Idaho and Pend Oreille County, Washington). Some select additional state socioeconomic data is presented for Idaho and the neighboring states of Washington and Montana, as well as the Canadian Provinces of British Columbia and Alberta (Table 8).

Table 8. Demographic and Socioeconomic Information for Recreation Market Area

	POPULATION ESTIMATE	MEDIAN HOUSEHOLD INCOME	PERCENT BELOW POVERTY LINE	PERCENT MINORITY POPULATION
STATES / PROVINCES IN REGION				
British Columbia	4,400,057	\$C 69,700	11.3%	27.3%
Alberta	3,645,257	\$C 83,800	7.3%	18.4%
Montana	989,415	\$47,169	15.2%	10.6%
Idaho	1,567,582	\$47,583	15.5%	9.0%
Washington	6,724,540	\$61,062	13.3%	22.7%
MUNICIPAL				
Bonner County, Idaho	40,877	\$42,171	15.3%	3.4%
Clark Fork	566	\$22,031	20.8%	6.0%
Sandpoint	7,378	\$32,461	18.0%	3.8%

	POPULATION ESTIMATE	MEDIAN HOUSEHOLD INCOME	PERCENT BELOW POVERTY LINE	PERCENT MINORITY POPULATION
Priest River	1,863	\$26,765	18.9%	5.3%
Pend Oreille County, Washington	13,088	\$40,599	21.5%	6.5%
Newport	1,921	\$13,900	23.6%	5.4%
Ione	479	\$12,093	16.4%	7.3%
Metaline Falls	223	\$16,390	33.2%	3.1%

Notes:

U.S. census data and population estimates are from U.S. Census Community Facts, 2010 Demographic Profile and 2015 Population Estimates, (as of July 1, 2015).

Canada census data are from Statistics Canada, 2011 and 2016

% Poverty in Canada – rates are based on low-income cut-off after-taxes (Canada without Poverty 2013)

2.8.9.1 Population and Demographics

Bonner County, Idaho had a population of 40,877 in 2010. The largest town is the county seat, Sandpoint, which comprises approximately 18.0 percent of the county's population and resides on the shore of Lake Pend Oreille. Priest River is downstream of Sandpoint, along the Pend Oreille River and had approximately 12.9 percent of the County's population. Clark Fork is on the Clark Fork River near close to its mouth in Lake Pend Oreille. The population of Bonner County increased by approximately 10.9 percent from 2000 to 2010, and has continued increasing by an average annual rate of approximately 0.9 percent since 2000 (U.S. Census Bureau, 2010). If Bonner County were to increase in population at a similar rate as it has since 2000, the population in 2030 would be approximately 51,913. If the population in Bonner County were to increase at the Idaho annual average (5.5 percent), the population in 2030 would be approximately 58,842. Bonner County has a small minority population of 3.4 percent, predominantly Hispanic and Native American (U.S. Census Bureau, 2010 and 2015).

Pend Oreille County, Washington is sparsely populated and had a population of 13,001 in 2010. The largest town along the river is Newport, with approximately 16.3 percent of the county's population. The remainder of the population is dispersed among several other small towns and rural areas along the river and south. The population of Pend Oreille County has increased by 10.8 percent from 2000 to 2010 and has continued increasing by an annual average of 0.77 percent since 2000. The State of Washington forecasted population is projected to increase by 23 percent 2010 to 2030 (Washington Office of Financial Management, 2016). If Pend Oreille County were to increase in population at a similar rate as it has since 2000, the population in 2030 would be approximately 27,042. If the population in Pend Oreille County were to increase at the Washington annual average (1.4 percent), the population in 2025 would be approximately 16,641. Pend Oreille County has a small minority population of 6.5 percent,

predominantly Hispanic, Native American and Asian. The Kalispel Indian Reservation is located north of Newport (U.S. Census Bureau 2010 and 2015).

2.8.9.2 Income and Employment

Recreation and tourism has become a major component of the economy, with winter related recreation highlighted by the Schweitzer Mountain Resort ski area and summer recreation highlighted by Lake Pend Oreille and the Pend Oreille River. Major employers include Idaho Forest Group, Litehouse (food product manufacturing), Schweitzer Mountain Resort, Wal-Mart, government, and various health care and nursing facilities. Agriculture is also an important part of the economy. Table 9 presents Bonner County, Idaho and Pend Oreille County, Washington employment by sector. The sectors most likely affected by spending associated with project visitation are Retail, Services, Accommodations, and Recreation/Entertainment, which collectively account for approximately 35 percent of the County economy in Bonner County, Idaho and over 25 percent of the County economy as reported in Pend Oreille County, Washington.

The 2010 census reported that Bonner County's median household income to be \$42,171, 69 percent of the state average. Approximately 15.3 percent of the County's population lived below poverty level in 2010. For comparison, this rate was slightly lower than the state average of 15.5 percent (U.S. Census Bureau 2010 and 2015).

Pend Oreille County, Washington is predominantly comprised of the Colville and Kaniksu National Forests. Due to its remote location it is not a major tourist destination, although some hunting and fishing take place. Agriculture, manufacturing, and government are the dominant industries, including agricultural products such as hay, beef and poultry.

The 2010 census reported that the Pend Oreille County's median household income at \$40,599, approximately 66 percent of the state average. Approximately 21.5 percent of the population lived below poverty level in 2010. For comparison, this rate was higher than the state average of 13.3 percent (US Census Bureau 2015).

Table 9. Percent Employment by Industry for the Primary Recreation Market

INDUSTRY SECTOR:	PERCENTAGE	
	BONNER COUNTY, IDAHO	PEND OREILLE COUNTY, WASHINGTON
Agriculture, Forestry, Fishing, Hunting, and Mining	4.3	4.1
Construction	8.8	9.2
Manufacturing	13.4	8.3
Retail Trade	15.5	9.3
Transportation, Warehousing, and Utilities	5.6	7.0
Information	1.5	2.3
Finance, Insurance, Real Estate	4.9	4.4

INDUSTRY SECTOR:	PERCENTAGE	
	BONNER COUNTY, IDAHO	PEND OREILLE COUNTY, WASHINGTON
Professional, Scientific, Management, and Administrative	6.4	6.5
Education, Health Care, and Social Services	19.3	22.1
Arts, Entertainment, Recreation, Accommodation, and Food Services	9.6	11.2
Other Services except Public Administration	4.6	3.4
Public Administration	3.6	10.0
Source: Employment data is for 2015 as presented in Selected Economic Characteristics, 2011-2015 American Community Survey 5-year Estimates. Bonner County, ID: https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF Pend Oreille County, WA: https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF		

2.8.9.3 Recreation Related Travel Spending

Idaho's Statewide Comprehensive Outdoor Recreation and Tourism Plan (ISPR 2013) reports that state travel spending has grown twice as fast as inflation and out-of-state visitors made up the largest portion of total travel expenditures. Idaho residents are reported to expend less due to their higher proportion of day trips. Of all visitors, the largest portion of expenditures was made by visitors staying in commercial accommodations as opposed to public campgrounds. Although day travelers do not need overnight accommodations, they still contribute to the state and local economies through travel expenditures. All travelers also indirectly contribute to local and state governments, since their spending dollars generate local and state tax revenues through the purchasing of goods and services.

A Corps National Recreation Study conducted in 2013 (Corps, 2013), estimated regional economic benefits of recreationist spending associated with visitation to the Project. Based upon an estimate of 277,890 visits per year, the following economic effects were calculated (presented in 2012 dollars):

- \$8.5 million in visitor spending within 30 miles of Lake Pend Oreille Lake and the Pend Oreille River
- \$4.5 million in sales within 30 miles of the lake and river
- 76 jobs within 30 miles
- \$4.1 million in value added (wages and salaries, payroll benefits, profits, rents, and indirect business taxes)

With multiplier effects, visitor trip spending resulted in:

- \$6.8 million in total sales

- \$2.5 million in total income
- 101 jobs in the local community surrounding the lake.
- \$4.1 million in value added (wages and salaries, payroll benefits, profits, rents, and indirect business taxes)

The money spent by visitors to the project area adds to the local and national economies by supporting jobs and generating income. Visitor spending represents a sizable component of the economy in many communities around the Project. By providing opportunities for active recreation, the Corps helps combat one of the most significant of the nation's health problems: lack of physical activity. Recreational programs and activities at the Project also help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self-esteem; and increase water safety.

2.8.10 RECREATION

2.8.10.1 Recreation Facilities and Activities

Eight recreation areas are owned by the Corps of Engineers, including four developed campgrounds/day-use areas, two day-use only areas, and two primitive access areas (Table 10). Albeni Cove, Priest River, Riley Creek, and Springy Point have a variety of day-use facilities and campsites with basic amenities (picnic tables, fire-rings, nearby potable water). All park attendant sites have full hook-ups. Riley Creek campsites have water and power at each campsite. The other three campgrounds do not have hookups at this time. The Vista Area and Trestle Creek are day-use areas only. Morton Slough and Johnson Creek (managed by the IDFG) provide a restroom and boat launch facilities. Johnson Creek also has four primitive campsites.

Table 10. Corps recreational facilities on Lake Pend Oreille and the Pend Oreille River.

RECREATION AREA	SIGHTSEEING	PICNIC AREA	PICNIC SHELTER	FISHING	BOAT LAUNCH RAMP	SWIMMING	CAMPING	TRAIL
Albeni Cove	•	•		•	•	•	•	
Priest River	•	•	•	•	•	•	•	
Riley Creek	•	•	•	•	•	•	•	•
Springy Point	•	•		•	•	•	•	
Vista Area / Visitor Center (day-use)	•	•		•				•
Trestle Creek (day-use)	•	•		•	•	•		
Morton Slough	•	•		•	•			
Johnson Creek WMA	•	•		•	•			

2.8.10.2 Visitation Profile

As presented in Section 2.8.9, recreation and tourism associated with the lake and its resources are a major contribution to the economic base of the region. The lake is strategically situated in the Panhandle Region of northern Idaho, with east-west and north-south rail and highway routes linking other major northwest tourist attractions. Lake Pend Oreille lies approximately in the center of a 400-mile-radius circle that includes the Canadian National and Provincial Parks; Yellowstone, Grand Teton, Glacier, Crater Lake, Mount Rainier, Olympic, and North Cascade National Parks in this country; Seattle, Victoria, Vancouver, the Olympic Peninsula, and the San Juan Islands of the Puget Sound area; the Mount St. Helens volcano; Grand Coulee and Bonneville Dams; the Rocky and Cascade Mountains; and the primitive wilderness areas of central Idaho.

2.8.10.3 Recreation Analysis

The location and distribution of recreation sites, including developed recreation areas (such as Riley Creek, Priest River, or Trestle Creek) and undeveloped natural areas influences management. The developed recreation areas are in proximity to local population centers with good accessibility from U.S. and state highways. The proximity of recreation areas to population centers significantly influences their popularity and types of use. Proximity to urban centers influences the use pattern of a recreation site. Two project recreation areas, Albeni Cove and Priest River, are close to the towns of Newport, Washington and Priest River, Idaho respectively. They receive heavy day use from the local population with the swimming beaches being a major attraction. Two other sites, Riley Creek and Springy Point, are both roughly 5 to 10 miles from the nearest town. Each has swimming beaches and boat ramps used by both overnight campers and the local population.

The recreational facilities in the project area are provided by a mix of federal, state, and local agencies, as well as private enterprises. However, growing demands for recreation opportunities continue to stress the present system, especially in the most popular areas. The desire to camp, boat, day hike, swim at a beach, and picnic is increasing in Idaho at a rate similar to or even greater than population increase. The greatest desires are for areas offering public access to water, trails, natural areas, and fish and wildlife habitat.

Persons living within the “primary market” area are close enough to be within 1/2 to 3/4 hour travel time of the lake, or within a 20 to 30-mile radius. For purposes of subsequent analysis, the primary market area is defined as Bonner County, Idaho, and Pend Oreille County, Washington. Within this primary market area are the city of Sandpoint and the towns of Priest River, Hope, East Hope, Clark Fork, Kootenai, and Ponderay, Idaho, and Newport, Washington.

The “secondary market” consists of the area outside the primary market within approximately 100 miles and/or 2 hours travel distance of Lake Pend Oreille. Specifically, the secondary market includes six Washington counties, seven Idaho counties, and three Montana counties, as well as southern Alberta, and the

southeastern part of British Columbia. The major population centers of the secondary market include Spokane, Washington, and Coeur d’Alene, Idaho.

The Panhandle Region of Idaho offers recreationists a wide variety of outdoor experiences set in a background of outstanding physical beauty. As noted earlier, camping and day-use facilities are provided by the Corps and other federal, state, and local agencies. To determine the need for new recreation facilities on Corps lands, it is necessary to look at existing public and private recreation facilities in the vicinity.

Idaho is heavily used by out-of-state recreationists (73 percent), particularly in the Panhandle Region of Idaho (ISPR 2013). Unfortunately, the 2013 report does not track international visitors and AFD camper registration forms indicate that approximately 20 percent are from Canada. A major share of this nonresident use occurs at overnight camping facilities. Examination of 2016 Summer Season camping reservations indicate that approximately 43 percent of overnight campers are from Washington, 18 percent are from Idaho, and 20 percent are from Canada, followed by 2 to 3 percent use by residents of California, Montana, and Oregon, with all other states contributing approximately 10 percent (Table 11). International visitors, which are primarily from Canada, tend to stay longer than U.S. residents do.

Table 11. 2016 Summer Season visitor statistics

Place of Residence	Total		Days per Reservation	Percent Total	
	Number of Reservations	Number of Days		# of Reservations	# of Days
California	127	305	2	3.0%	2.5%
Idaho	781	1,982	3	18.3%	16.4%
Montana	98	173	2	2.3%	1.7%
Oregon	119	207	2	2.8%	41.8%
Washington	1,833	5,044	3	43.0%	41.8%
All other states	440	928	2	10.3%	7.7%
International (mainly from Canada)	868	3,426	4	20.3%	28.4%
Note: Days per Reservation are rounded to whole days, as reservation are available by whole days only.					

2.8.10.4 Recreational Carrying Capacity

The shoulder seasons are considered to be May through June, and after Labor Day (first Monday in September) through to the end of September) with weekends providing the highest amount of visitation by both campers and day-users. The table below (Table 12) shows a snapshot of the utilization of Albeni Falls’ campgrounds.

Table 12. Percentage Campsite Utilization by Park

	2012			2013			2014			2015			2016		
	WD	WE	T	WD	WE	T	WD	WE	T	WD	WE	T	WD	WE	T
Albeni Cove	34	52	42	36	54	44	30	50	39	32	50	40	40	58	48
Priest River	46	62	53	45	58	51	41	61	49	35	57	44	39	64	50
Riley Creek	67	84	74	69	82	74	69	82	75	70	81	75	73	84	78
Springy Point	50	62	55	51	66	58	49	64	55	51	69	59	53	69	60
All			63			64			63			63			66
	WD = Weekday			WE = Weekday			T = Total								

As noted in Table 12, campground utilization is higher on the weekends than on the weekdays; similarly, this is also true in the day-use areas (Vista and Trestle Creek). The higher weekend use can be attributed to use by local commuting area residents and organized groups that reserve picnic shelters at Priest River and Riley Creek for functions on the weekends. At each facility the carrying capacity is mainly determined by the number of parking slots available, and by this standard Albeni Falls' facilities reach capacity most summer weekends. However, during extremely busy times Park Rangers will park cars on road shoulders and in the case of Riley Creek, convert the two-way road into one-way to allow parallel parking in the closed lane. At all recreation areas, when parking lots are full and the road shoulders has reached capacity, the Park Rangers will close the day-use access roads⁶ and create a one-vehicle-out, one-vehicle-in procedure. This procedure is maintained until enough vehicles have departed to allow parking in a normal fashion. This scenario, although not frequent, has occurred at Springy Point in particular on hot summer weekend days.

2.8.11 REAL ESTATE

Real estate considerations influence land and resource management at the AFD. These considerations include the quantity of Corps-owned in fee title ("fee lands"), outgrants, and the ownership and use of adjacent lands. The Corps administers 4,237 acres (fee lands) in multiple parcels, most of which have some amount of shoreline. However, during summer pool, only 959 acres (23 percent of the total Corps-owned acreage) are above water. This limited land base must be managed to address recreational and environmental uses.

2.8.11.1 Land Acquisition History

Under the auspices of the Flood Control Act of 1950 (PL 81-516), the Corps acquired large acreages of land for the Albeni Falls Dam project. At the time of acquisition, it was the general desire of the administration that new land be restricted to the minimum amounts required for operations, maintenance, and to meet foreseeable public access demand. Original acquisition criteria followed by the Corps were generally consistent with that policy. The initial authorized project purpose, as set forth in PL 81-516, Title II, was "*for the benefit of navigation, and*

⁶ Road shoulder parking is not allowed in the campgrounds for safety reasons.

the control of destructive floodwaters and other purposes.” All Corps lands were originally allocated to project operations, in accordance with the initial acquisition purposes.

2.8.11.2 Current Landholdings

Physical resources consists of 4,240 acres of land and water in fee title located along the Pend Oreille River and the north side of Lake Pend Oreille. The river includes the 29-mile section between the Albeni Falls Dam and Lake Pend Oreille. The lake itself is a 94,600 surface-acre reservoir providing approximately 226 miles of shoreline. The property administered by the Corps consists of 22 non-contiguous parcels ranging in size from two acres or less (Muskrat Lake, C-322 parcel), to 1,375 acres (Pack River Delta). In addition, the Corps administers approximately 14,394 acres of easement land around the lake and river, managed for the effects of normal project use and operation.

2.8.11.3 Boundary Monumentation, Encroachments, and Trespass

It is estimated that established fee land boundary lines from surveys for all parcels total approximately 13 miles. This does not include boundaries delineated by physical or natural features such as railroads, roadways, rivers, or the lake. Several areas, such as Strong's Island, Carr Creek, and the North Shore Strips, are delineated almost entirely by a physical or natural feature.

Corps-owned lands were partially surveyed and monumented in the 1970's. Several areas that were missed were revisited in the 1980's for 100 percent completion of the surveys. In 2000, areas that had questionable or missing monuments were identified; these areas were resurveyed in 2000 and 2001 by Corps surveyors and contract surveyors and monuments or pins re-established. Fee lands are currently inspected on a routine basis by the Corps Seattle District Real Estate Office. In addition, project personnel inspect Corps-managed lands while conducting routine activities. As part of inspections, monument locations are checked and a list kept of missing or damaged monuments. Due to the unfamiliarity of the existing boundary lines, it is anticipated that some lines will need to be identified first with a return trip for delineation. Other lines, such as those around the major recreation areas, are well established and known. These areas are delineated with Carsonite markers (2.6 inch-wide flat post type sign) indicating the break from private property to public property. A determination on the type of delineation for the other areas will depend on the natural and physical features, and aesthetic concern.

Encroachments are defined as unauthorized structure that has occurred on Corps-owned Project lands. These include building, road, pond, utility (water, sewer, electrical) line, fences, docks, etc. Encroachments have also occurred on easement lands where habitable structures have been constructed in easement areas in violation of the terms of the easements. Trespass is unauthorized transient use such as livestock grazing, mowing, planting, camping, abandoning personal property, timber cutting and removal, etc. Easement encroachments and trespass are generally identified through inspections by Corps staff and/or out-grantees. Encroachments are resolved through personal visits and verbal communication by the project staff

and Real Estate personnel or by written communication by the project staff or Real Estate personnel. Trespasses are resolved by verbal or written communication, citation, and/or confiscation. Encroachments and trespass may also be resolved through the lifting of restrictions (particularly in easement violations), through outgrants, or through disposal actions. Records including letters, memoranda and maps are maintained for all violations.

2.8.11.4 Fences and Gates

Fencing is utilized on Corps lands to delineate property boundaries, prevent livestock trespass, and for security purposes. Fencing may consist of four-strand barbed wire, smooth galvanized wire, or cyclone (chain-link) fencing. Due to the rough terrain and fluctuating reservoir levels, fencing all boundaries is not cost effective. However, boundary delineation with increased signage is called for by Corps policy (EP 310-1-6a), and will be beneficial. Gates are located throughout the Corps lands to provide security, but are also used to keep vehicles from entering during seasonal closures or to areas where vehicular access is not allowed.

2.8.11.5 Leases, Easements, and Out-grants

Many leases, easements, and outgrants have been granted to public utilities and individuals for a variety of uses, including access roads, power transmission lines, and utility lines. Development and use of land by others outside of the Corps may be allowed when in accordance with this approved Master Plan. Use must be consistent with policies, procedures, and regulations prescribed by Corps. Prior to their approval, any future leases, easements, and out-grants must be carefully examined to ensure compatibility with project resource objectives and updated land classifications.

ER 1165-2-400 states: *“The traditional policy of the Corps has been to encourage non-federal participation in the administration of recreation opportunities provided at Corps projects. Since 1944, the Corps has entered into leases which permit state and local development and administration of recreation areas at Civil Works projects.”* This is true at the AFD, which at the time of publishing this *Master Plan*, includes outgrant licenses for 4,075 acres (96.2 percent of the total Corps-owned lands at AFD). The current license with IDFG for management of lands in the Wildlife Management Areas (4,046 acres) extends to September 30, 2033. Management of outgranted lands and associated resources must remain consistent with the resource objectives and land use classifications provided in this Master Plan.

2.8.11.6 Adjacent Land Use and Ownership

Neighboring land use and ownership can influence development and management of project lands. In some cases, adjacent uses will have a positive influence. For example, private marina and resort facilities complement the Corps-managed day use facility and boat launch at Trestle Creek. The private facilities provide concessions and services while the public facility provides public access and restrooms in a popular resort and fishing area of the lake. In other cases, neighboring land use can exert a negative influence. Industrial activity, developments, railroads, and highway traffic near or adjacent to existing and/or potential recreation sites can influence the

value and enjoyment of the outdoor recreation experience. Noise and visual impacts can be strong constraints in the planning and siting of campgrounds, picnic areas, and other use areas. The wood products plants located adjacent to or relatively near existing recreation sites at Priest River and Riley Creek, respectively, are incompatible land uses. Industry-related noises affect the level of enjoyment of visitors to these recreation sites. Noise and traffic generated by public recreation sites can also negatively affect adjacent residential neighborhoods.

Offsite influences can be minimized or eliminated if considered ahead of time. Zoning, ownership, and current use plans of adjacent lands must be known before development of potential recreation areas, as well as land use changes or proposals, which might affect recreational and wildlife resources. Responsible state and local planning officials should be alerted when such proposals might endanger existing project resources or proposed improvements.

2.8.12 PERTINENT PUBLIC LAWS

All project-related actions and policies must comply with federal laws and regulations. Such regulations may include, but not be limited to:

- Rivers and Harbors Act of 1899
- Antiquities Act of 1906
- Migratory Bird Treaty Act of 1918
- The Historic Sites Act of 1935
- Fish and Wildlife Coordination Act of 1934
- Bald and Golden Eagle Act of 1940
- Flood Control Act of 1944 (PL 78-534)
- Flood Control Act of 1950 (PL 81-516)
- The Reservoir Salvage Act of 1960.
- Forest Cover Act of 1960.
- The National Historic Preservation Act of 1966.
- National Environmental Policy Act of 1969.
- Endangered Species Act of 1973.
- The Water Resource Development Act of 1974, Sec. 77.
- The Archeological and Historical Data Conservation Act of 1974.
- Safe Drinking Water Act of 1974.
- Federal Land Policy and Management Act of 1976.
- The Clean Water Act of 1977.
- The Archeological Resources Protection Act of 1979.
- The Emergency Wetlands Resources Act of 1986.
- The North American Wetlands Conservation Act of 1989.
- Native American Graves Protection and Repatriation Act of 1990.
- Americans with Disabilities Act of 1990, ADA Amendments Act of 2008.
- Preservation of American Antiquities Act, Jan. 2008, as amended
- Executive Order (EO) 11593: Protection and Enhancement of the Cultural Environment May 1971.

- EO 11988: Floodplain Management, May 1977.
- EO 11990: Protection of Wetlands, May 1977, as amended.
- EO 12898: Environmental Justice in Minority Populations and Low-Income Populations, Feb. 1994, as amended.
- EO 13112: Invasive Species, Feb. 1999, as amended
- EO 13186: Responsibilities of Federal Agencies to Protect Migratory Birds, Jan 2001
- Code of Federal Regulations (CFR), Title 33, Part 325: Processing of Department of the Army permits; Procedures for the Protection of Historic Properties, Nov 1986.
- CFR, Title 36, Parks, Forests, and Public Property.
 - 36 CFR Part 60: National Historic Preservation Act of 1966, as amended
 - 36 CFR Part 61: Procedures for State, Tribal, and Local Government Historic Preservation Programs, March 1999.
 - 36 CFR Part 63: Determinations of Eligibility for Inclusion in the National Register of Historic Places, Sept. 1977, as amended.
 - 36 CFR Part 327: Rules and Regulations Governing Public Use of Corps of Engineers Water Resource Development Projects, Sept. 1985.
 - 36 CFR Part 800: Protection of Historic and Cultural Properties, incorporating amendments effective Aug. 2004).
- 50 CFR Part 17: Endangered and Threatened Wildlife and Plants, Sept. 1975, as amended.
- Sec. 1 (42 U.S.C 1856a): Reciprocal Fire Protection Act of 1955.
- AR 190-29: Misdemeanors and Uniform Violation Notices Referred to U.S. Magistrates, 20 August 84.
- Federal Highway Administration. 2009. Manual on Uniform Traffic Control Devices. Revisions numbers 1 and 2 incorporated, May 2012.

2.8.13 MANAGEMENT PLANS

Several management plans direct activities and expenditures for Corps owned and managed lands in and around Albeni Falls Reservoir. These plans are interrelated and discussed in the following paragraphs. Each must be considered when planning future actions.

2.8.13.1.1 *Operational Management Plan*

The Operational Management Plan is a management action document that describes in detail how the resource objectives and concepts prescribed in this Master Plan will be implemented. The last Operational Management Plan for AFD was approved in 2016. Under the umbrella of the Operational Management Plan are the following supplemental management plans:

- a) *Historic Property Management Plan* – The purpose of the document is to insure the preservation of the cultural resources at the project by inventories, evaluation of sites for eligibility on the National Register of Historic Places, and mitigation. The plan addresses, among other topics, the background of the area, program evaluations, operating plans, schedules, funding, and coordination. The most recent update of the Historic Property Management Plan was in 2008.

- b) *Wildlife Management Plan* – The primary purpose of the Wildlife Management Plan is to assist the Natural Resource Managers at AFD in meeting the goals of wildlife protection and habitat preservation. Wildlife program priorities include two major categories: (1) Natural resource management to include conservation and damage prevention, recreation, hunting, and fishing; and (2) species inventorying and monitoring. The last update to the Wildlife Management Plan was completed in 2015.
- c) *Pest Management Plan* – The Pest Management Plan is the formal, integrated pest management program for Albeni Falls Project. The program addresses noxious weeds, insects, and wildlife related problems. The latest update to the Pest Management Plan was in 2010; however, the herbicide and invasive species portions are updated annually.
- d) *Vegetation Management Plan* – The primary purpose of the Vegetation Management Plan is to assist the Natural Resource Managers to improve the current conditions based on sound management practices and scientific data, providing for the perpetuation of the forest resources under multiple use conditions. The latest update to the Vegetation Management Plan was in 1995; however, the Hazard Tree portion is updated annually..

2.8.13.1.2 *Regional Resource Management Plans*

- a) *Columbia River Basin Technical Management Team* – The Technical Management Team is an inter-agency technical group responsible for making recommendations on dam and reservoir operations within the Columbia River Basin. The Technical Management Teams’ mission is specifically to ensure broad technical participation and use of the best available technical information, and to encourage regional consensus on technical recommendations regarding operations of the Federal Columbia River Power System (FCRPS). The focus of the Technical Management Team is to assure FCRPS operations specified in the NMFS and USFWS Biological Opinions are implemented while considering the provisions of (and effects on) the Northwest Power and Conservation Council's (NPCC) Fish and Wildlife Program, other Biological Opinions, State and Tribal plans and programs, and other relevant operational requirements. The coordinated operation of FCRPS dams and reservoirs is part of the measures designed to halt and reverse the declines of threatened or endangered Columbia River Basin salmon and other declining fish species.
- b) *Federal Columbia River Power System Biological Opinion*. This report contains provisions to provide for shoreline spawning and incubation needs for kokanee, a forage base for ESA listed bull trout, with winter pool levels of 2055 feet determined per USFWS Biological Opinion of 2000, and for interagency coordination of winter pool levels in consideration of spawning and incubation needs for lower Columbia River chum salmon (*Oncorhynchus keta*) (NOAA Fisheries and USFWS 2008).
- c) *Federal Columbia River Power Systemwide Programmatic Agreement for the Management of Historic Properties affected by the Multipurpose Operations of Fourteen Projects of the Federal Columbia River Power System for Compliance with Section 106 of the National Historic Preservation Act*. This Programmatic

Agreement (PA) provides a mechanism for streamlining compliance with Section 106 of the NHPA (Corps 2009).

- d) *Idaho State Wildlife Action Plan* – The Plan is intended to conserve fish and wildlife by helping landowners, resource-based industries, and land management agencies to choose programs and on-the-ground activities that benefit those species that need the most help. All guidance, strategies, and actions suggested in the Action Plan are voluntary and will help prevent future endangered species listings (IDFG 2016).
- e) *Pend Oreille Wildlife Management Plan* – The Pend Oreille WMA is managed by IDFG to protect wildlife habitat and provide public access for hunting, fishing, and other outdoor recreational pursuits. Habitat management emphasis has primarily been for waterfowl production and protection of wetland areas used by migrating birds in the spring and fall. The 2014-2023 Plan provides broad, long-term management direction for the Pend Oreille WMA. IDFG intends to reevaluate the plan in 5-year increments and to modify as needed to accommodate changing conditions and goals and to incorporate available advancements in management knowledge and techniques (IDFG 2014).

3 RESOURCE OBJECTIVES

Sound stewardship requires the development and management of project resources for the public benefit consistent with resource capabilities. As the steward of the lands and waters at Corps of Engineers water resource projects, the *Natural Resource Management Mission* is to manage and conserve those natural resources, consistent with ecosystem management principles, while providing quality public outdoor recreation experiences to serve the needs of present and future generations” (ER1130-2-540).

The Master Plan provides resource objectives for the stewardship of project resources, both natural and manmade. Resource objectives are realistically attainable outcomes for the use, development, and management of natural and manmade resources. Resource objectives are developed with full consideration of authorized project purposes, applicable Federal laws and directives, resource capabilities, regional needs, plans and goals of regional and local governmental units, and expressed public desires. These objectives enhance project benefits, meet public needs, and foster environmental sustainability.

The over-arching project-wide resource objective for AFD is to continue to provide benefits to the public from the congressionally authorized purposes of “*Flood Control, Navigation, Conservation, Recreation, and Power Generation.*” These benefits should be provided in a safe, effective, and efficient manner.

Resource objectives for the Albeni Falls Dam and Lake Projects include:

- Continue the provision of project benefits, including flood control, fish and wildlife, and recreation, throughout the life of the Project;
- Provide the best combination of resource uses and project operations to meet the needs of the public;
- Provide for the management of natural resources associated with the Projects to include the protection and preservation of native habitat, the protection of water quality, and the implementation of programs to manage wildlife species;
- Promote the public’s use of the Project for both non-consumptive uses (e.g., hiking, wildlife viewing) and consumptive uses (e.g., fishing);
- Promote public education concerning the Projects’ man-made and natural resources;
- Protect and conserve cultural resources;
- Conserve, protect, monitor, restore, and/or enhance habitat and habitat components important to the survival and proliferation of threatened, endangered, special status, and other regionally important species;
- Control shoreline erosion;
- Prevent unauthorized use of government property through boundary management

In addition to the above encompassing resource objectives, following are objectives for specific areas or land classifications.

3.1 DAM AND OPERATIONS STRUCTURES

- Maintain the operational integrity of the dam and related facilities
- Interpret the Corps' missions for visitors
- Provide for low intensity recreation that does not hinder the operation or security of the project.

3.2 RECREATION AREAS – HIGH DENSITY

- Maintain and enhance educational, recreational, and sanitary facilities for project visitors while improving visual quality of facilities and site (from Vista).
- Upgrade and maintain site facilities and provide expanded recreation opportunities.
- Reduce conflicts between activities in different zones by increasing efficiency and esthetics, particularly with regard to circulation and parking of vehicles and boat trailers.

3.3 RECREATION AREAS – LOW DENSITY

- Increase the value of day-use recreation areas with special emphasis on maintaining high quality facilities and improving upon these facilities and operations

3.4 WILDLIFE MANAGEMENT AREAS

The WMAs are currently under license to the IDFG for the conservation and management of wildlife resources. In 2014, IDFG updated their management plan for the Pend Oreille Wildlife Management Area (WMA), which encompasses Corps licensed properties as well as other properties. The WMA is managed “*to protect wildlife habitat and provide public access for hunting, fishing, and other outdoor recreational pursuits.*” Habitat management emphasis has primarily been for waterfowl production and protection of wetland areas used by migrating birds in the spring and fall.

The Corps' objectives for wildlife management areas work in concert with IDFG's:

- Provide non-consumptive recreational uses such as hiking, wildlife viewing, photography, and sightseeing that are consistent with the Wildlife Management classification objectives
- Provide access for consumptive use
- Promote ecological integrity and native habitat diversity and maintain quality habitat for native species

4 LAND ALLOCATION, LAND CLASSIFICATION, WATER SURFACE, AND PROJECT EASEMENT LANDS

4.1 GENERAL

The Albeni Falls Project has a total of 18,627.10 acres. Of those, 4,237.76 acres are fee title acres of land and water, with 4,075.27 acres in out-grants. Fee lands consist of numerous non-adjacent parcels situated along the both banks of the Pend Oreille River, and the northern shore of Lake Pend Oreille. Of the remaining 14,327 acres, 5,077 acres are U.S. Forest Service or Bureau of Land Management withdrawal lands, and 9,299 acres are flowage easements.

Corps of Engineers lands represent only 11 percent of the Lake Pend Oreille/Pend Oreille River shoreline. The pie chart below (Figure 5) illustrates the percentage of land owned/operated by someone other than the Corps of Engineers. Approximately 59 percent of the shoreline is privately owned, 15 percent is railroad and highway embankment, 13 percent is owned by the U.S. Forest Service, and 2 percent is in state and municipal ownership.

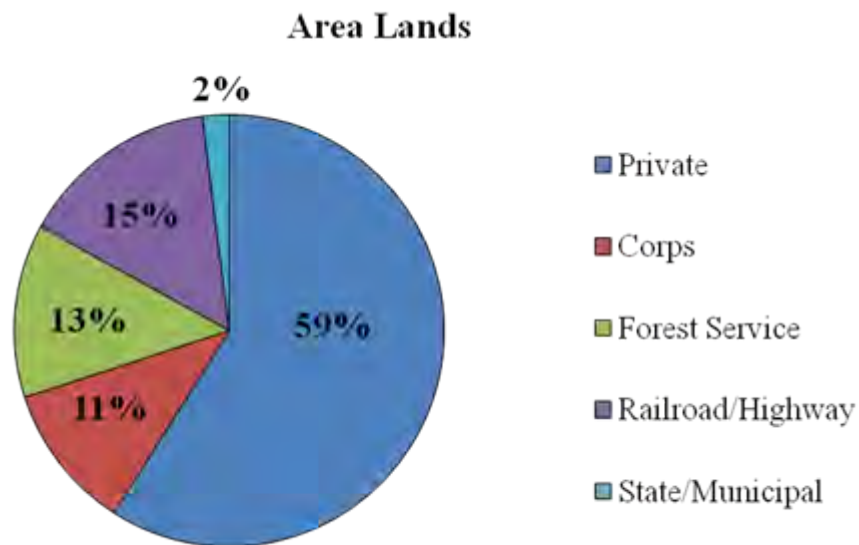


Figure 5. Area Lands Ownership Adjacent to Lake Pend Oreille or Pend Oreille River

4.2 LAND ALLOCATION

Land administered by the Corps is allocated to any of four categories depending on the congressionally authorized purpose for which they were acquired. These are defined as Operations, Recreation, Fish and Wildlife, and Mitigation. An overview of the land administered by the Corps can be found in Figure 6 and Figure 7.

Figure 6. AFD Pend Oreille River Management Units

Figure 7. AFD Lake Pend Oreille Management Units

4.2.1 OPERATIONS

A 300-foot horizontal “take line” landward of the high pool elevation (2,062.5 feet mean sea level NGVD 29) was the guidance used for land acquisition. All Albeni Falls Dam and Pend Oreille Reservoir land above and below the take line is allocated to Operations. Land above the 300-foot take line was acquired for access and public uses, as described in The Master Plan, Development and Management of Albeni Falls Reservoir, 1955.

4.2.1.1 Easement Lands

Approximately 9,299 acres in flowage easements were acquired on private lands around the reservoir for the purposes of accommodating wave action, erosion, ground water effects and other water surface elevation adjustments that might occur as a result of the operation of the Project. In effect, the easements provide a five-foot “freeboard” above regulated maximum pool (2062.5 ft.), which give the Government the right to intermittently inundate lands below elevation 2067.5 ft. MSL without liability for damage to private property within the easement area. Key to this right was a provision that prohibited construction of dwellings having a first floor elevation below 2067.5 ft. and within the legally described easement areas.

Wave damage and significant shoreline erosion in the mid-1950s led the Corps to acquire additional easement rights, or construct bank protection, in the late 1950s and early 1960s to provide a higher level of protection for the Government in erosion prone areas. These easements were acquired landward of the initial flowage easements and contained provisions prohibiting “*dwellings for human habitation*”. Approval was required from the Corps for non-habitable structures and other improvements within the easement areas. The “*no-habitation*” easements were not tied to a specific elevation or contour line, but were based on engineer/geotechnical estimates of future erosion limits for the specific area. Approximately 100 individual tracts of land were initially covered by the “*second*” easements; however, as the shoreline was developed and large tracts of land subdivided, the number of individual owners increased to approximately 300 by 1989.

For a variety of reasons (inaccurate legal descriptions, lack of boundary markers, incomplete title investigation, etc.) a significant number of dwellings were discovered that were built in violation of no-habitable structure restriction. In the mid-1980s, a boundary marker/encroachment resolution effort was started by the Corps with a goal of reestablishing and placing property boundary markers, including easements, and resolving the encroachments created by these dwellings. Funding was reduced and efforts to mark boundary lines stopped after two years.

However, efforts to deal with encroachments continued. The result was a program to “release” the no-habitable structure restriction from the second easement areas while retaining the equivalent of the standard flowage easement over the area. Owners are provided with a Deed of Release in return for providing a release of liability to the Government for any future damages associated with the operation of the Project. At the time of preparing this Master Plan (2017), this effort continues.

During the evaluation process described above, it was determined that the 2067.5 ft. first floor elevation restriction included in the flowage easement was not necessary in the river arm of the reservoir downstream of the "long" bridge (US Highway 95 Bridge) at Sandpoint. A decision was made to lower the restrictive elevation for this area to 2065.0 ft. and issue deeds of release to the shoreline owners, again in return for the release of liability. This process is subject to the availability of funding and labor. The 2067.5 ft. first floor elevation restriction remains on the rest of the reservoir shoreline.

4.2.1.2 Public Domain Lands

Approximately 5,119 acres of public land were placed into the withdrawn under Public Land Order 1703 dated August 8, 1958. These lands are managed by the U.S. Forest Service, Panhandle National Forest, or the U.S. Department of Interior, Bureau of Land Management. The jurisdiction of the Corps over withdrawal lands is limited to flowage purposes in connection with Albeni Falls Dam. There is no active Corps management on these lands. Of the total acreage, 2 acres were disposed of (dates and reasons for disposal unknown). In 1995, approximately 60 acres of lands owned by the Forest Service near Thama were relinquished, reducing the total acreage to 5,078. In 1996, an additional 40 acres owned by the BLM were relinquished, reducing the total acreage in withdrawn lands to the current 5,077 acres.

4.2.1.3 Other Operational Lands

Fourteen additional acres are held in easement by the Corps for other operational purposes. These acres include in-grants, located within the vicinity of the powerhouse. These in-grants consist of easements for utility rights-of-way and other facilities located on or crossing Burlington Northern Railroad right-of-way. Total in-grant acreage is approximately one acre.

4.2.1.4 Boundary Survey and Management

As identified above, the Corps owns 4,237 acres of land and water in fee title (called "fee lands") located along the Pend Oreille River and the north side of Lake Pend Oreille (Table 13). It is estimated that established fee land boundary lines from previous surveys for all parcels total approximately 13 miles. This does not include boundaries delineated by physical or natural features such as railroads, roadways, rivers, or the lake. Several areas, such as Strong's Island, Carr Creek, and the North Shore Strips, are delineated almost entirely by a physical or natural feature.

Corps-owned lands were partially surveyed and monumented in the 1970's. Several areas that were missed were revisited in the 1980's for 100 percent completion of the surveys. In 2000, areas that had questionable or missing monuments were identified; these areas were resurveyed in 2000 and 2001 by Corps surveyors and contract surveyors and monuments or pins re-established.

Fee lands are currently inspected on an annual basis by the Corps Seattle District Real Estate Office. In addition, project personnel inspect Corps-managed lands while conducting routine activities.

4.2.1.5 Encroachments

Encroachments are defined as unauthorized use that has occurred on Corps-owned Project lands. These include structures, livestock, waterlines, driveways, etc. Encroachments have also occurred on easement lands where habitable structures have been constructed in easement areas in violation of the terms of the easements. Easement encroachments are generally identified through inspections by boat and surveys. Encroachments are resolved through personal visits and verbal communication by the project staff and Real Estate personnel or by written communication by the project staff or Real Estate personnel. Encroachments may also be resolved through the lifting of restrictions (particularly in easement violations), through out-grants, or through disposal actions. Records including letters, memoranda and maps are maintained for all violations.

4.2.2 RECREATION

Lands acquired specifically for the congressionally authorized purpose of recreation. AFD does not have lands specifically authorized for recreation. Recreation features on Operation Lands are described below under Land Classification.

4.2.3 FISH AND WILDLIFE

Lands acquired specifically for the congressionally authorized purpose of fish and wildlife management. AFD does not have lands specifically authorized for fish and wildlife management. These features on Operation Lands are described below under Land Classification.

4.2.4 MITIGATION

Lands acquired or designated specifically for the congressionally authorized purpose of offsetting losses associated with the development of the project. AFD does not have lands specifically authorized for mitigation.

4.3 LAND CLASSIFICATION

Allocated land is broken down further into classifications to provide for development and resource management consistent with authorized purposes and the provisions of the National Environmental Policy Act of 1969, as amended, as well as other federal laws. Classification categories at AFD include Project Operations, Recreation, Environmentally Sensitive Areas, Multiple Resource Management (MRM) Lands and Easement Lands. General overview maps of land classifications can be found in Figure 8 and Figure 9.

Table 13. Albeni Falls Dam Land Classification (Fee Acres)

SITE	OPERATIONS	RECREATION	MRM – WILDLIFE MANAGEMENT AREAS	MRM – LOW DENSITY RECREATION	ENVIRONMENTALLY SENSITIVE AREAS*	BELOW 2062.0 Ft*	TOTAL
Vista Area	17.43	4.78		18.32	0.89		40.53
Albeni Cove		39.22			9.4	9.4	39.22
Northshore Strips WMA			22.44		12.69		22.44
Strong’s Island WMA			31.08		12.11	13.08	31.08
Priest River		22.67			2.75		22.67
Priest River WMA			114.71		82.73	86.0	114.71
C-322 WMA			0.43				0.43
Carey Creek WMA			60.62		44.41	46.68	60.62
Riley Creek		48.2			1.27		48.2
Riley Creek WMA			150.25		118.87	117.1	150.25
Hoodoo Creek WMA			81.99		52.07	52.99	81.99
Morton Slough WMA			392.9	9.0	303.77	349.32	401.9
Mallard Bay WMA			47.86		39.10	44.0	47.86
Muskrat Lake WMA			2.0		2.0	1.0	2.0
Carr Creek WMA			14.68	0.66	12.32	11.34	15.34
Hornby Creek WMA			30.87		21.68	19.27	30.87
Springy Point		32.24			17.83	21.46	32.24
Ponder Point WMA			5.62		2.58		5.62
Oden Bay WMA			397.83		317.35	324.19	397.83
Pack River WMA			1,373.78	0.18	1,246.06	1,253.96	1,373.96
Trestle Creek		8.8			6.6	7.34	8.8
Clark Fork WMA	59.43		1,240.96	8.81	768.43	578.2	1,309.2
Total Fee Acres	76.86	155.91	3,968.02	36.97	3,074.91	2,935.33	4,237.76
<p>Note:</p> <p>* Due to an overlap in land classifications, the acreage for Environmentally Sensitive Areas and Below 2062 feet elevation are included in the totals for other classifications. These columns identify the acreages of each area that are classified as an environmentally sensitive area, or flooded at high pool, and one of the other classifications. The acreages in these columns should not be used when computing totals as these numbers are already included in one of the other classifications.</p>							

Figure 8. Land Classification, Management Units on the Pend Oreille River.

Figure 9. Land Classifications, Management Units on Lake Pend Oreille.

4.3.1 PROJECT OPERATIONS

This category includes those lands required for the operation and maintenance of the dam and reservoir, associated structures, administrative offices, maintenance compounds, and other areas under the Project Operations classification. Where compatible with operational requirements, this land may be used for wildlife habitat management and low-density recreational uses. Licenses, permits, easements, or other out-grants are issued only for uses that do not conflict with operational requirements. Some Project Operations lands are always closed to public access for safety or security reasons, while other areas may be subject to closure for operational requirements or other purposes. Motorized recreation within Project Operations land is allowed only on designated routes.

4.3.2 RECREATION

Land developed for intensive recreational activities for visitors, including day use and/or overnight facilities, commercial concessions, and quasi-public development. High Density Recreation at AFD are areas with improved road access, more than 15 campsites, and/or allow for intensive day use. Motorized access is allowed only in designated areas, subject to seasonal or permanent closure based on road conditions, presence of important species that would be impacted by the presence of motorized vehicles, or other reasons deemed appropriate by Corps staff.

Facilities may include developed campgrounds, separate day use facilities, lake access for boats, marina facilities and services, opportunities for the elderly and handicapped to participate in a variety of activities, trees for shade and wildlife use, and vegetative controls for shoreline and soil erosion. Criteria such as spacing, buffer zones, vegetative screening, and other considerations are used in the design of facilities to ensure visitors have adequate access to the lake and a quality experience.

Low-density recreation and wildlife management activities that are compatible with intensive recreation use are acceptable. No agricultural uses are permitted on these lands except on an interim basis for the maintenance of scenic or open space values. Licenses, permits, easements, or other out-grants are issued only for use that does not conflict with recreation use. Hunting is not allowed on land classified as Recreation, although fishing is an appropriate recreational activity. Table 14 below contains primary and secondary uses for land classified as Recreation.

4.3.3 ENVIRONMENTALLY SENSITIVE AREAS

Areas where scientific, ecological, cultural, or aesthetic features have been identified. Designation of these lands is not limited to just lands that are otherwise protected by laws such as Endangered Species Act, the National Historic Preservation Act or applicable State statutes. These areas must be considered by management to ensure they are not adversely impacted. Typically, limited or no development of public use is allowed on these lands. No agricultural or grazing uses are permitted on these lands unless necessary for a specific resource management benefit, such as prairie restoration. These areas are typically distinct parcels located within another, and perhaps larger, land classification, area.

4.3.4 MULTIPLE RESOURCE MANAGEMENT LANDS

This classification allows for the designation of a predominate use as described below, with the understanding that other compatible uses described below may also occur on these lands (e.g. a trail through an area designated as Wildlife Management).

4.3.4.1 Low Density Recreation.

Lands with minimal development or infrastructure that support passive public recreational use (e.g. primitive camping, fishing, hunting, trails, wildlife viewing, etc.). Emphasis is on minimal development or infrastructure that might support sightseeing, wildlife viewing, nature study, hiking, biking, horseback riding, primitive camping, and picnicking. Consumptive uses of wildlife (i.e., hunting, fishing, and trapping) are allowed when compatible with the wildlife objectives for a given area and with federal, tribal, and/or state fish and wildlife laws and regulations. Motorized access is allowed on approved trails in designated areas. All motorized access is subject to seasonal or permanent closure based on road conditions, the presence of important species that would be negatively impacted by the presence of motorized vehicles, or other reasons deemed appropriate by the Corps.

Facilities may include boat ramps, boat docks, trails, parking areas and vehicle controls, vault toilets, picnic tables, and fire rings. Manmade intrusions (power lines, non-project roads, and water and sewer pipelines) may be permitted under conditions that minimize adverse effects on the natural environment. Vegetation management that does not greatly alter the natural character of the environment is permitted for a variety of purposes, including erosion control, retention and improvement of scenic qualities, and wildlife management. Table 14 below contains a listing of primary and secondary uses on lands classified under MRM – Recreation Low Density.

Table 14. Operations allocation, Multiple Resource Management Land classification, sub-classification Low Density Recreation.

MRM – LOW DENSITY RECREATION, 96.72 ACRES	
PRIMARY USE	SECONDARY USE
Manage land for low density, low impact recreation opportunities. <ul style="list-style-type: none">➤ Hunting/fishing➤ Hiking➤ Bicycling➤ Canoeing/kayaking➤ Horseback riding➤ Primitive camping➤ Picnicking➤ Swimming➤ Sightseeing and nature observation➤ Boat ramps➤ Non-motorized trails➤ Other similar activities	Wildlife Management <ul style="list-style-type: none">➤ General riparian habitat health➤ Ecological restoration projects➤ Nesting habitat➤ Other similar activities

4.3.4.2 Wildlife Management

This land is designated for stewardship of fish and wildlife resources in conjunction with other land uses. Habitat maintenance and/or improvements are for a designated species, group of species, and/or a diversity of species. These areas may be administered by other public agencies under a lease, license, permit, or formal agreement. Licenses, permits, and easements are normally not allowed for manmade intrusions such as pumping plants, pipelines, cables, transmission lines, or for non-Corps maintenance or access roads. Exceptions to this policy are allowable where necessary for the public interest or other reasons deemed important by the Corps.

Wildlife management land is available for sightseeing, wildlife viewing, nature study, hiking, biking, horseback riding, and primitive camping. Consumptive uses of wildlife (hunting, fishing, and trapping) are allowed when compatible with the wildlife objectives for a given area, as well as with federal, tribal, and/or state fish and wildlife laws and regulations. Limited motorized access is allowed in designated areas where access would not conflict with the primary purpose of managing for wildlife health. All motorized access is subject to seasonal or permanent closure based on road conditions, the presence of important species that would be impacted from the presence of motorized vehicles, or other reasons deemed appropriate by the Corps. Table 15 below contains a listing of primary and secondary uses on lands classified under MRM – Wildlife Management.

Table 15. Operation allocation, Multiple Resource Management Land classification, sub-classification Wildlife Management.

MRM – WILDLIFE MANAGEMENT, 3,910.18 ACRES	
PRIMARY USE	SECONDARY USE
Manage land for stewardship of fish and wildlife resources. <ul style="list-style-type: none">➤ General riparian habitat health➤ Habitat enhancement projects➤ Ecological restoration projects➤ Protection of specific habitat areas/components (i.e. denning sites, calving sites, nests, wallows, etc.➤ Other similar activities	Low Density Recreation <ul style="list-style-type: none">➤ Hunting/fishing➤ Hiking➤ Bicycling➤ Canoeing/kayaking➤ Horseback riding➤ Primitive camping➤ Picnicking➤ Sightseeing and nature observation➤ Designated motorized access trails and roads with seasonal closures➤ Non-motorized trails➤ Other recreation activities of a primitive nature

Wildlife management areas licensed to the IDFG consist of extensive acreages comprised primarily of wetland habitats. Wetlands are particularly productive and

sensitive environments. The Corps has a stewardship responsibility for these areas that transcends management agreements with the licensee and uses its resources and professional expertise to preserve and protect these areas as productive areas for both consumptive and non-consumptive wildlife.

4.3.4.3 Vegetative Management

Management activities in this classification focus on the stewardship of forest resources and native vegetative cover. All project land is managed to protect and develop vegetative cover in conjunction with other land uses. Vegetative management land is available for sightseeing, wildlife viewing, nature study, hiking, biking, and horseback riding, as well as hunting, fishing, and trapping. Consumptive uses of vegetation (e.g., timber harvest for the purpose of habitat creation and forest health) are acceptable when compatible with the vegetative objectives for a given area. Vegetative management also involves plant communities that are significant to Native American Tribes.

The Corps did not designate any AFD land as MRM – Vegetative Management. Instead, MRM - Wildlife Management was chosen to be the sub-classification for a large portion of the land. Its goals of the two classifications are similar and support similar uses and management actions. Vegetative Management, however, remains an important aspect of managing for wildlife.

4.3.4.4 Inactive and/or Future Recreation Areas.

This sub-classification includes land with site characteristics compatible with potential future recreational development, or land that includes existing recreation areas temporarily closed. There is no guarantee these areas will be developed and/or reopened, but in the interim are managed for low-density recreation or wildlife management. Input from stakeholder and working groups determined the land had future recreation potential if and when funding could be secured and with sufficient public demand. Each proposed recreation development site would be evaluated under NEPA prior to development.

No land at AFD was identified as Inactive and/or Future Recreation Areas.

4.3.5 PROJECT EASEMENT LANDS

All lands for which the Corps holds an easement interest, but not fee title. Planned use and management of easement lands will be in strict accordance with the terms and conditions of the easement estate acquired for the project. Easements were acquired for specific purposes and do not convey the same rights or ownership to the Corps as other lands. In most cases, the Corps has the right to flood these properties on occasion. Planned use and management is in strict accordance with the terms and conditions of the easement estate acquired for the project. The Corps of Engineers has acquired easements on approximately 14,389.74 acres at or adjacent to Lake Pend Oreille and the Pend Oreille River.

4.3.5.1 Flowage Easement

Corps retains rights to these lands for project operations. AFD has flowage easements for 9,299 acres. In general, easement lands above and below the summer pool elevation of 2,062.5 MSL acquired by the Corps from private land owners to protect the Corps in the event of inundation or sloughage of land. Terms and conditions of the easements are identified in the easement agreements. The Corps does not own this land but has interests associated with the operations of AFD.

4.3.5.2 Conservation Easement/Public Domain Lands

Corps retains rights to lands for aesthetic, recreation, and environmental benefits. AFD has easements on 5,077 acres of public lands above and below the summer pool of 2,062.5 MSL. These easement lands are withdrawn from appropriation under public land laws for use by the Corps for flowage purposes. The lands otherwise continue to be managed by the U.S. Bureau of Land Management (Department of Interior), and the U.S. Forest Service (Department of Agriculture).

4.3.5.3 Operation Easement

Operation easements are lands others have provided a right to the Corps for operational purposes. Corps retains rights to these lands necessary for project operations (access, utilities, etc.). AFD has easements of 13.74 acres for operations. An example of an operation easement are lands near the dam owned by the railroad but through which the Corps has an easement for a utility line.

5 RESOURCE PLAN

As described in Chapter 4, all Corps lands along Lake Pend Oreille and the Pend Oreille River are congressionally allocated as Operations. Within the Operations allocation, the properties are classified (zoned) for different functions or uses: Operations, Recreation, Multiple Resource Management – Low Density Recreation, and Multiple Resource Management – Wildlife Management Area. Environmentally Sensitive Areas are a sub-classification that overlaps into at least one of the main classifications; therefore these acres are not included in the total acreage of an area. Acreages below 2062 feet elevation are flooded when the reservoir is at high pool, but are exposed in the low water (winter) months. This chapter will describe each property in terms of the classification, the anticipated public use, and resource stewardship objectives.

5.1 VISTA AREA

5.1.1 CLASSIFICATION

Vista Area has three primary classifications: Operations, Recreation, and Multiple Resource Management – Low Density Recreation, and the sub-classification Environmentally Sensitive Area.

5.1.2 MANAGEMENT AGENCY

U.S. Army Corps of Engineers

5.1.3 LOCATION AND ACREAGE

The 40.53 acre Vista Area is located 2 miles east of Newport, Washington on U.S. Highway 2, and is along the northern side of the Pend Oreille River (Figure 10). The Vista Area provides a scenic overview of the powerhouse and dam. Acreages are as follows:

- 17.43 acres Operations
- 4.78 acres Recreation
- 18.32 acres Multiple Resource Management – Low Density Recreation
- 0.89 acres Environmentally Sensitive Area

5.1.4 DESCRIPTION AND USE

Vista Area provides a scenic overview of the powerhouse and dam. Facilities in the Vista Area include paved roads and parking lots, a picnic area, visitor center with restrooms, a paved trail from the Visitor's Center to the powerhouse, the powerhouse and appurtenant structures, and the resource maintenance shop. The recreation area is open to the public year-round. The powerhouse is generally open to the public year-round and is a popular location for tours. Estimated average visitation is 62,146 people per year. The representative photo (Photo 1) was taken from the river, looking northwards toward Vista Area.

Figure 10. Map of Vista Area

5.2 ALBENI COVE RECREATION AREA

5.2.1 CLASSIFICATION

Albeni Cove Recreation Area is classified as Recreation, which includes Environmentally Sensitive area.

5.2.2 MANAGEMENT AGENCY

U.S. Army Corps of Engineers

5.2.3 LOCATION AND ACREAGE

The 39.22 acre Albeni Cove Recreation Area is located on the south bank of the Pend Oreille River across from the Vista Area at Albeni Falls Dam. It is located southeast of Hwy. 41 on 4th Street (Figure 11). Acreages are as follows:

- 29.82 acres Recreation (uplands)
- 9.4 acres Environmentally Sensitive Area / below 2062 feet elevation

5.2.4 DESCRIPTION AND USE

Public use facilities include 13 non-hookup campsites, two park attendant sites, a restroom, a picnic area, one boat ramp, one swim area, one park office, paved roads, and paved or graveled parking areas. A bridge spanning the cove was installed in 1991. Facilities removed include a caretaker's cabin in 1990 and four vault toilets in 1997. The area is generally open from mid-May to mid-September, with walk-in use during the

winter months. The estimated average visitation is 20,402 people per year. A representative photo is provided as Photo 2.

Figure 11. Map of Albeni Cove Recreation Area

5.3 NORTHSHORE STRIPS WILDLIFE MANAGEMENT AREA

5.3.1 CLASSIFICATION

Multiple Resource Management – Wildlife Management Area with Environmentally Sensitive Areas.

5.3.2 MANAGEMENT AGENCY

Idaho Department of Fish and Game, by license, within the Pend Oreille WMA

5.3.3 LOCATION AND ACREAGE

The North Shore Strips WMA is a 22.44-acre undeveloped parcel that lies between the Burlington Northern Railroad right-of-way and the north shore of the Pend Oreille River (Figure 12). Within the boundary of the WMA are 12.69 acres designated as Environmentally Sensitive Area. The management unit begins at the dam area and ends three miles upstream. The strips are accessible by foot or boat.

5.3.4 DESCRIPTION AND USE

The Northshore Strips WMA is a natural area that is managed by IDFG for the benefit of fish and wildlife resources and is open to the recreating public. The WMA is long and narrow, with slopes at the west end that drop from the railroad to the water's edge (Photo 3). As the unit progress east, the slopes graduate into fairly flat, undulating areas. Vegetation is typically deciduous shrub-upland and riparian to include hawthorn, serviceberry, and snowberry. A few small areas of cattails occur, as well as pockets of forested areas with species including Douglas fir, grand fir, and ponderosa pine. The area is used by a variety of wildlife including deer and beaver. Wet areas are frequented by shore birds including herons and sandpipers. Songbirds also utilize the shrub vegetation for foraging and nesting sites.

Figure 12. Map of North Shore Strips WMA

5.4 STRONG'S ISLAND WILDLIFE MANAGEMENT AREA

5.4.1 CLASSIFICATION

Multiple Resource Management – Wildlife Management Area with Environmentally Sensitive Areas. Classification as a WMA is a change from the classification in the previous 1981 Master Plan, which classified the island as Recreation – Low Density.

5.4.2 MANAGEMENT AGENCY

Idaho Department of Fish and Game, by license, within the Pend Oreille WMA.

5.4.3 LOCATION AND ACREAGE

Strong's Island WMA is a 31.08-acre eroding mid-channel island that located two miles upstream from AFD in the Pend Oreille River (Figure 13). Within the WMA are the following sub-classification acreages:

- 12.11 acres designated as Environmentally Sensitive Areas
- 13.08 acres below 2,062 feet elevation

5.4.4 DESCRIPTION AND USE

Prior to 1982, the island supported limited recreational development as a picnic and primitive camping area for boaters. In 1982, the facilities were removed and the island is now managed for wildlife considerations. The island is long and narrow with a wide variety of vegetative cover growing in zones arranged lineally from east to west (Photo 4). At the western and downstream end of the island, a meadow is bordered with low shrubs, isolated pine trees, and fruit trees that remain from a former orchard. East of the meadow is a mixed forest composed primarily of ponderosa pine that extends eastward in varying densities. The ponderosa pine graduates into a fir/red cedar type and birch/red

Photo 4. Strong's Island WMA, with hazy conditions due to regional forest fires.

cedar type. A small pocket of wetland vegetation occurs on the north side of the island in the peat/muck soil area.

As nearby lands along the riverbank are increasingly developed for residential use, the habitat that is provided by Strong's Island becomes more important. The island provides a resting place for white-tailed deer, supports a resident population of ruffed grouse, and provides resting and rearing habitat for Canada geese. Varieties of birds associated with evergreen forests also utilize the area for nesting and foraging. Small mammals also occur on the island, although larger mammals, particularly carnivores, are limited due to accessibility.

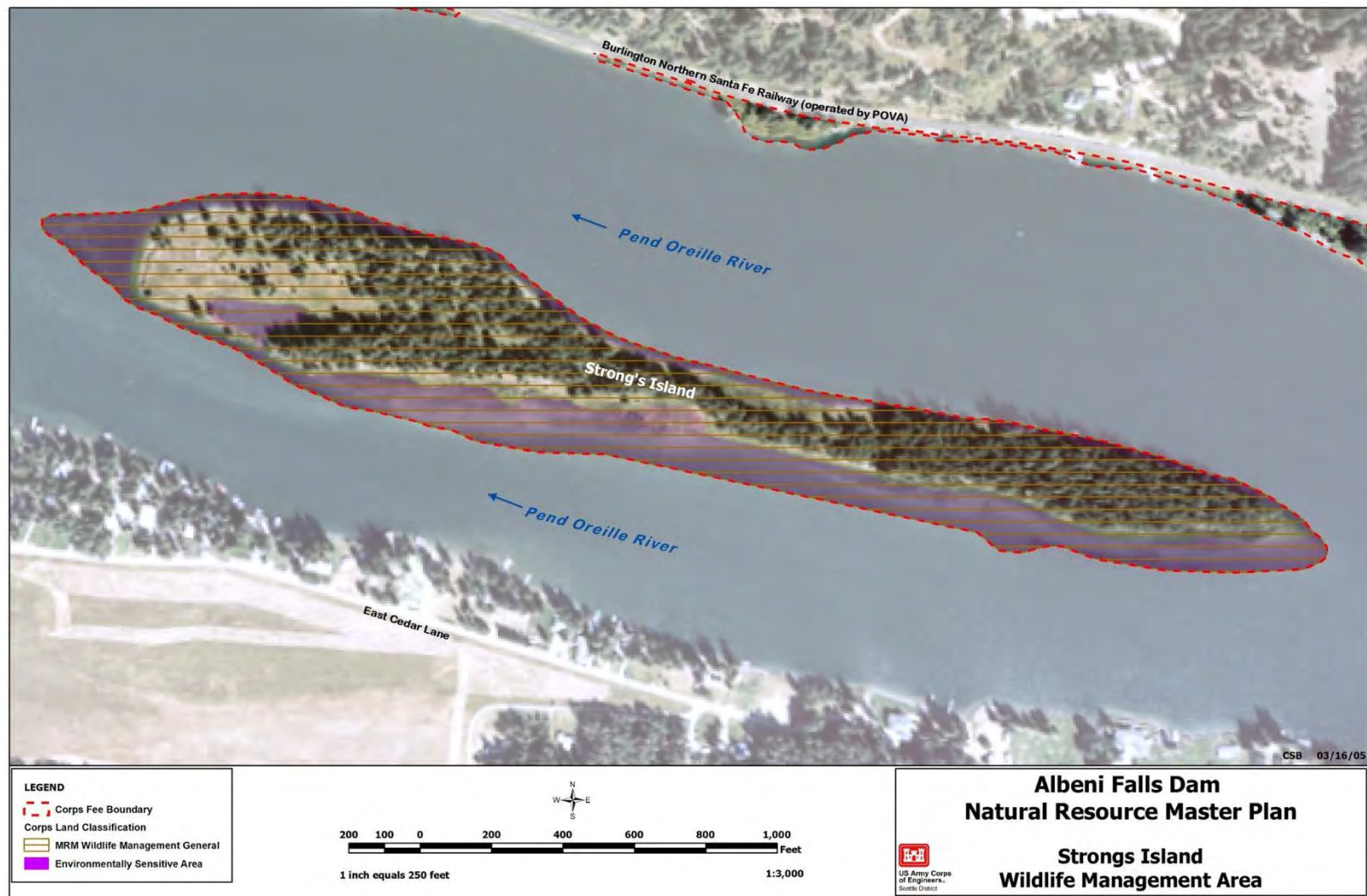


Figure 13. Map of Strong's Island (part of North Shore Strips WMA)

5.5 PRIEST RIVER RECREATION AREA

5.5.1 CLASSIFICATION

Priest River Recreation Area is classified as Recreation and is managed as a public campground and park.

5.5.2 MANAGEMENT AGENCY

U.S. Army Corps of Engineers

5.5.3 LOCATION AND ACREAGE

The 22.67 acre Priest River Recreation Area is located east of the Town of Priest River, on the east bank of the confluence of the Priest River and the Pend Oreille River (Figure 14). Within the boundary of the recreation area are 2.75 acres designated as Environmentally Sensitive Area.

5.5.4 DESCRIPTION AND USE

The high-intensity recreation area, locally called "*the Mudhole*", consists of the following public use facilities: 20 campsites with no hookups, two park attendant sites with full hookups, a bike camping area, one swim area, one boat ramp with courtesy dock, one amphitheater, a ball field, a playground area, one reservable shelter, one shower house-restroom, one restroom with changing areas, one dump station, one park office, paved roads and parking lots. The area is generally open for drive-in use from mid-May to the end of September, with walk-in use during the winter months. The estimated average visitation is 40,500 people per year. A representative photo of the recreation area is provided as Photo 5.



Photo 5. Priest River Recreation Area

Vegetation consists of coniferous forest including ponderosa pine, lodgepole pine, grand fir, western white pine, Douglas fir, and western red cedar. In addition, a portion of the recreation area is in lawn. The low-intensity recreation area includes wetland species such as reed canarygrass and cattails with small pockets of upland shrubs and scattered pockets of coniferous trees.

Osprey, deer, raven, gulls, and migratory songbirds are commonly seen in the recreation area. There are occasional visits of black bear, moose, and white-tailed deer. Waterfowl and wading birds utilize the wetlands within the wildlife area for breeding and loafing. Fish species caught from the shores of the recreation area include kokanee, squawfish, white fish, and trout species.

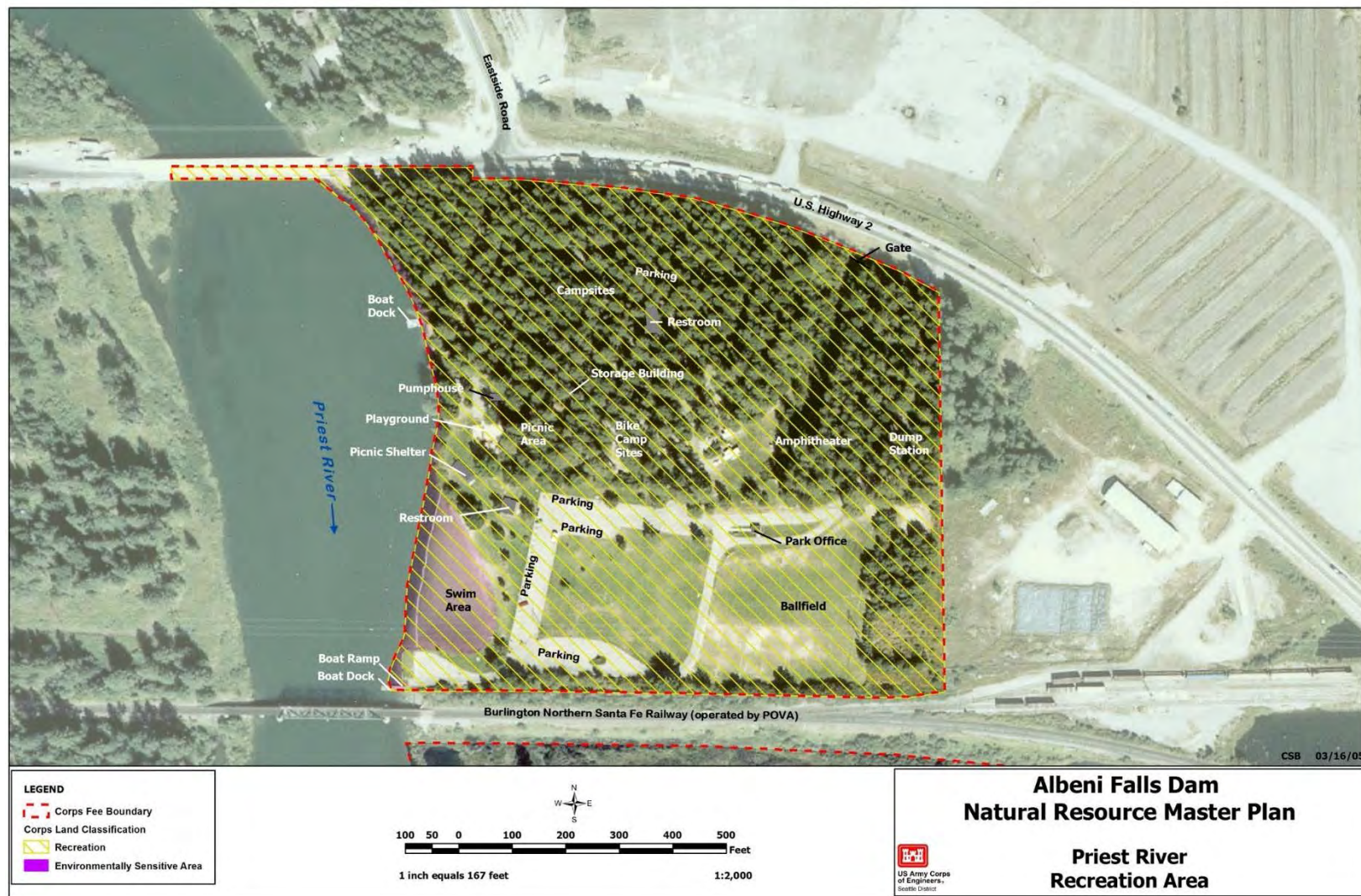


Figure 14. Map of Priest River Recreation Area
Albeni Falls Master Plan 2017

5.6 PRIEST RIVER WILDLIFE MANAGEMENT AREA

5.6.1 CLASSIFICATION

Multiple Resource Management – Wildlife Management with Environmentally Sensitive Areas. This is a change from the 1981 Master Plan, which classified the area as Multiple Resource Management – Low Density Recreation.

5.6.2 MANAGEMENT AGENCY

Idaho Department of Fish and Game, by license, within the Pend Oreille WMA

5.6.3 LOCATION AND ACREAGE

The 114.71-acre Priest River Wildlife Management Area is located along the northern bank of the Pend Oreille River and east of the Priest River Recreation Area (Figure 15). It is bound to the north by the Burlington Northern Railroad. Within the WMA are the following sub-classifications acreages:

- 82.73 acres are designated as Environmentally Sensitive Area
- 86 acres below 2062 feet elevation

5.6.4 DESCRIPTION AND USE

Vegetation consists of coniferous forest including ponderosa pine, lodgepole pine, grand fir, western white pine, Douglas fir, and western red cedar. The wetland areas include species such as reed canary grass and cattails with small pockets of upland shrubs and scattered pockets of coniferous trees. A representative photo of the Priest River WMA is provided as Photo 6.



Photo 6. Priest River WMA

Osprey, deer, raven, gulls, and migratory songbirds are commonly seen with an occasional visit from black bear, moose, and white-tailed deer. Waterfowl and wading birds utilize the wetlands for breeding and loafing. Fish species caught from the shores include kokanee, squawfish, white fish, and trout species.

Due to erosion from wave action and seasonal sloughing the shoreline has been stabilized with riprap and plantings in phases. In 2006, approximately 600 linear feet of shoreline was stabilized with riprap and plantings; in 2007 an additional 750 linear feet of steeper sloped banking was stabilized with riprap; and in 2015, approximately 3,700 linear feet were stabilized with riprap with a willow lift one foot above the ordinary high water (OHW) line.

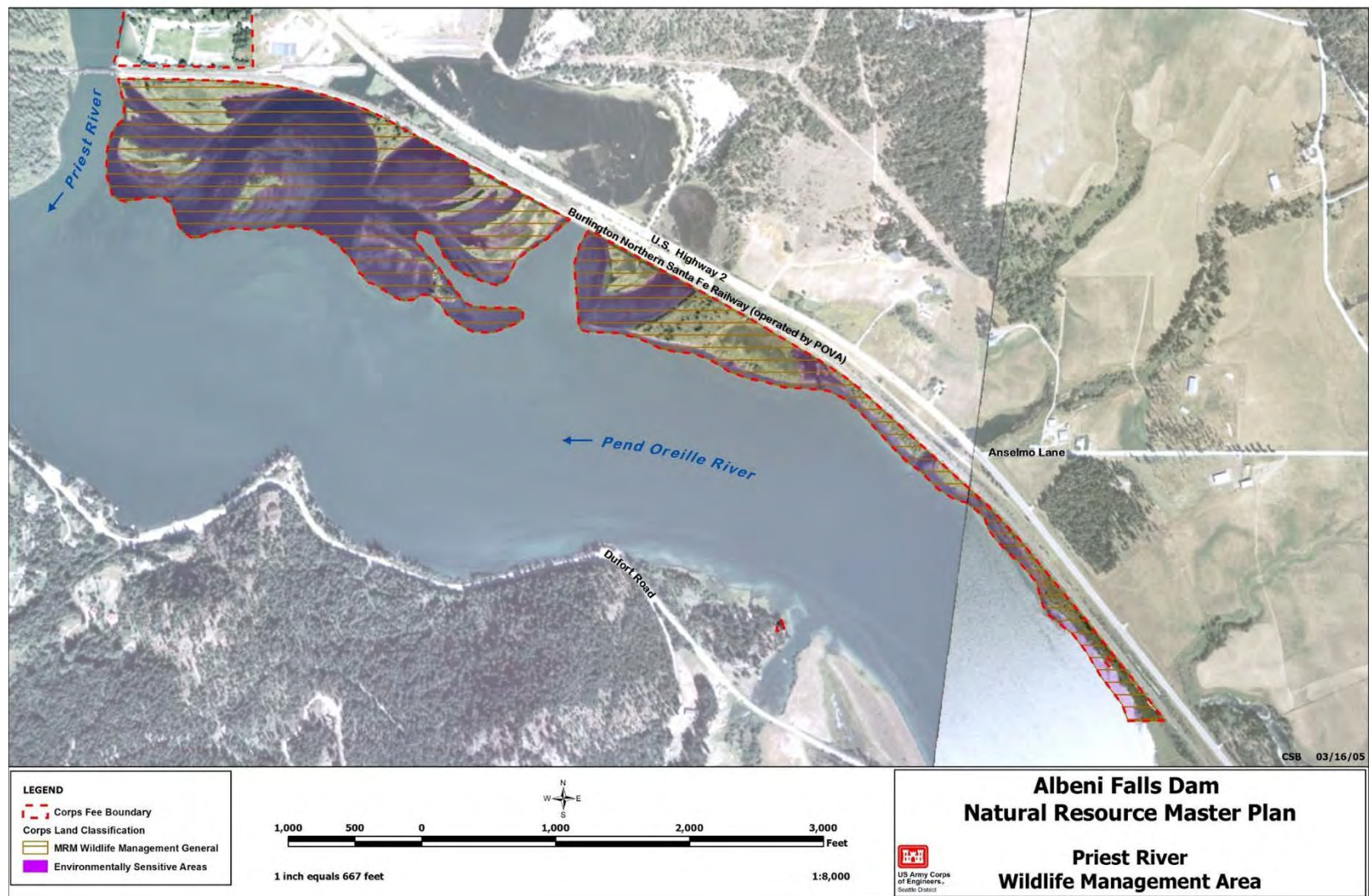


Figure 15. Map of Priest River WMA
Albeni Falls Master Plan 2017

5.7 C-322 WILDLIFE MANAGEMENT AREA

C-322 refers to the parcel number for this tract taken from the real estate maps.

5.7.1 CLASSIFICATION

Multiple Resource Management – Wildlife Management.

5.7.2 MANAGEMENT AGENCY

Idaho Department of Fish and Game, by license, within the Pend Oreille WMA

5.7.3 LOCATION AND ACREAGE

The 0.43 acre parcel is located on the south bank of the Pend Oreille River, seven miles east of Albeni Falls Dam and two miles east of Priest River off Dufort Road. This unit is included as part of the Priest River Wildlife Management Area in the IDFG license (Figure 16).

5.7.4 DESCRIPTION AND USE

Most of the area is composed of northeast facing rock outcrop with a small, flat parcel of wetland existing between the rock outcrop and the water's edge (Photo 7). Vegetation consists of a cattail fringe near the water line and upland vegetation on the rock outcrops. Two large ponderosa pines serve as perch trees, with smaller ponderosa mixed with upland brush species. The parcel is too small to support a diversity of wildlife or fish. There is evidence of small bird and raptor use of the perch trees and the surrounding brush.



Photo 7. C-322 Wildlife Management Area



Figure 16. Map of C-322 parcel (part of Priest River WMA)

5.8 CAREY CREEK WILDLIFE MANAGEMENT AREA

5.8.1 CLASSIFICATION

Multiple Resource Management – Wildlife Management Area

5.8.2 MANAGEMENT AGENCY

Idaho Department of Fish and Game, by license, within the Pend Oreille WMA

5.8.3 LOCATION AND ACREAGE

The 60.62 acres Carey Creek WMA is located on the south bank of the Pend Oreille River, eight miles east of Albeni Falls Dam and three miles east of Priest River off Dufort Road (Figure 17). The WMA is accessible by foot or by boat. Within the WMA are the following acreages:

- 44.41 acres Environmentally Sensitive Areas
- 46.68 acres below 2062 feet elevation

5.8.4 DESCRIPTION AND USE

Carey Creek WMA is a mosaic of land and water, with marshy islands on the west end and a small portion of upland on the east (Photo 8). The creek runs through the middle of the unit, dividing the marshy areas from the upland portions. At low water, mud flats are evident throughout the unit. A rock outcrop drops down from the edge of the county road on the west end into the marshy areas.



Photo 8. Carey Creek WMA

A variety of habitat types exist on the unit, including a coniferous/deciduous tree mix on the rock outcrop with a shrub understory, and upland shrubs in the east portion. The marshy areas consist of emergent vegetation including cattails and reed canarygrass.

The site is an important waterfowl and spiny ray fish feeding and propagation area. Wetland and upland bird species utilize the area for foraging and nesting. Eagles have been observed sitting in the neighboring coniferous trees and on pilings in the marshy areas.



Figure 17. Map of Carey Creek WMA

5.9 RILEY CREEK RECREATION AREA

5.9.1 CLASSIFICATION

Recreation

5.9.2 MANAGEMENT AGENCY

U.S. Army Corps of Engineers

5.9.3 LOCATION AND ACREAGE

The 48.2-acre Riley Creek Recreation Area is located on the northern shore of the Pend Oreille River near Laclede, ID, on a peninsula of land bound by the Pend Oreille River on the south and the Riley Creek Slough to the northwest (Figure 18). Within the recreation area, 1.27 acres are considered an Environmentally Sensitive Area.

5.9.4 DESCRIPTION AND USE

Riley Creek Recreation Area consists of the following public use facilities: 67 campsites with no hookups, three park attendant sites with full hookups, one swim area, one boat ramp with courtesy dock, a boat basin (Photo 9), two fishing piers, one amphitheater, a playground area, two reservable shelters, four restrooms (two with showers), bike-pedestrian trail, one dump station, one park office, paved roads and parking lots. The area is generally open to vehicular travel from mid-May to mid-September, with walk-in use during the winter months. The estimated average visitation is 41,884 people per year.



Photo 9. Riley Creek Recreation Area, lawn and boat basin

Riley Creek Recreation Area has a low profile, with minor elevations undulating throughout. It supports stands of western red cedar, western white pine, grand fir, Douglas fir, ponderosa pine and lodgepole pine. The recreation area provides habitat for waterfowl, small mammals, ospreys, bald eagles, songbirds, and provides winter habitat for larger wildlife such as deer, moose, and bear.



Figure 18. Map of Riley Creek Recreation Area

5.10 RILEY CREEK WILDLIFE MANAGEMENT AREA

5.10.1 CLASSIFICATION

Multiple Resource Management – Wildlife Management

5.10.2 MANAGEMENT AGENCY

Idaho Department of Fish and Game, by license, within the Pend Oreille WMA.

5.10.3 LOCATION/ACREAGE

The 150.25 acres Riley Creek WMA is located on the north shore of the Pend Oreille River near Laclede, ID (Figure 19). It includes portions of the Riley Creek Slough and shoreline north of the recreation area. Within the WMA are the following sub-classification acreages:

- 118.87 acres Environmentally Sensitive Area
- 117.10 acres below 6062 feet elevation

5.10.4 DESCRIPTION AND USE

The Riley Creek WMA has a mostly flat topography with minor elevation undulations throughout (Photo 10). It supports western red cedar, western white pine, grand fir, Douglas fir, ponderosa pine and lodgepole pine. The wetlands areas include species such as reed canary grass and cattails, with pockets of shrub-scrub wetland and conifers. This unit provides habitat suitable for waterfowl, white-tailed deer, small mammals, osprey, bald eagles, bear, moose and songbirds.



Photo 10. Riley Creek WMA

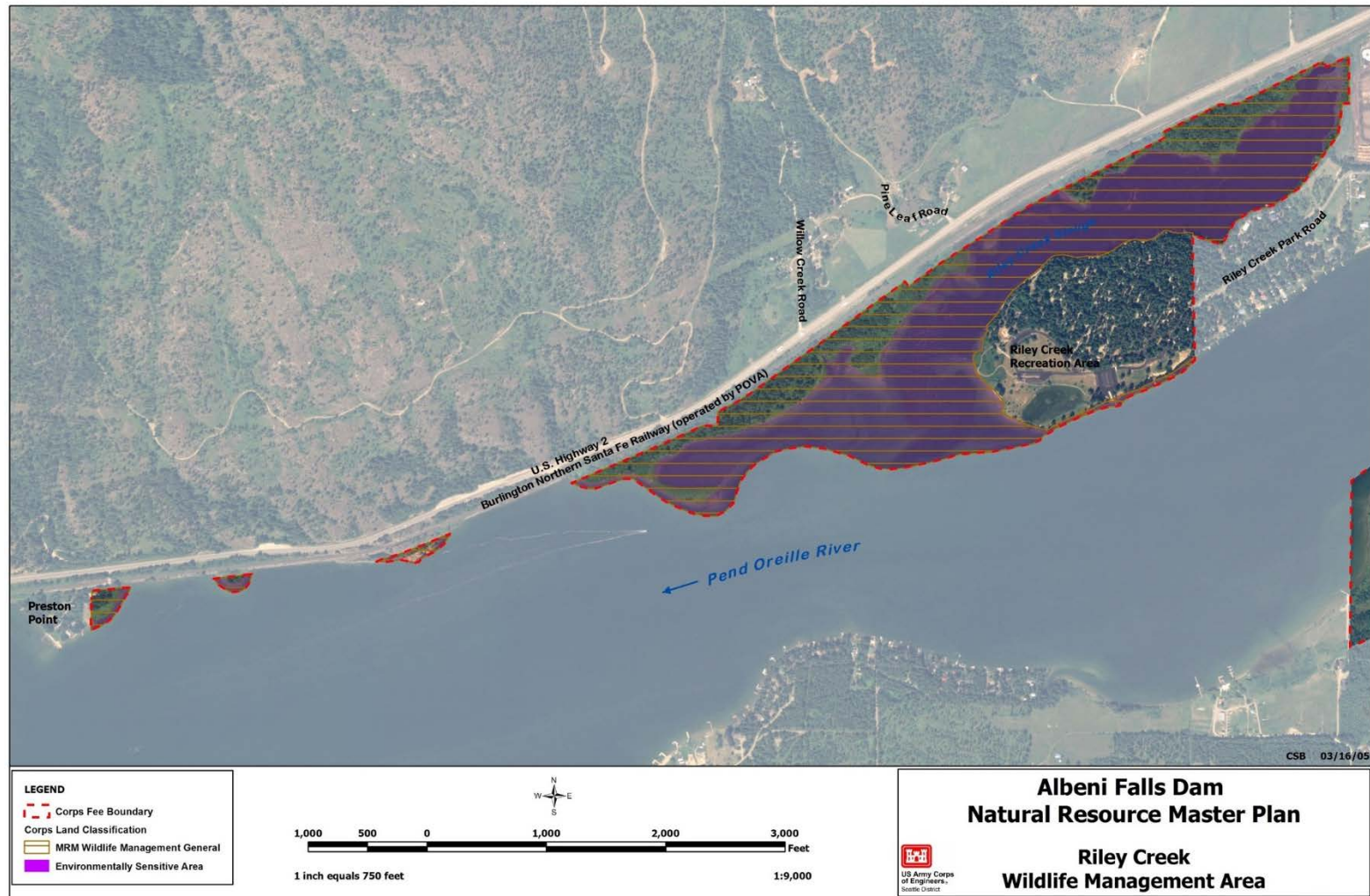


Figure 19. Map of Riley Creek WMA

5.11 HOODOO CREEK WILDLIFE MANAGEMENT AREA

5.11.1 CLASSIFICATION

Hoodoo Creek WMA is classified as Multiple Resource Management – Wildlife Management

5.11.2 MANAGEMENT AGENCY

Idaho Department of Fish and Game, by license, within the Pend Oreille WMA

5.11.3 LOCATION/ACREAGE

The 81.99 acre Hoodoo Creek WMA is located on the south bank of the Pend Oreille River, directly across from Laclede, ID, and the Riley Creek Recreation Area (Figure 20). The site may be accessed by turning north off Dufort Road and driving approximately 1/2 mile. The access road formerly served as an approach to the Seneacquoteen ferry that ran from the south side of the river to Laclede. Within the WMA are the following sub-classifications:

- 52.07 acres Environmentally Sensitive
- 52.99 acres below 2062 feet elevation

5.11.4 DESCRIPTION AND USE

Topography of the area is generally flat, with wetlands progressing gradually upslope to the dryer uplands. The area is a mosaic of land and water, with marshy islands and peninsulas protruding north into the river, and uplands on the southern portions of the WMA (Photo 11).



Photo 11. Hoodoo Creek WMA

The area's wetlands are a complex mosaic of emergent and sub-emergent types, merging into undisturbed riparian forest. Emergent cattail and reed canary grass marshes predominate in the wetter areas. The riparian forest consists of aspen groves interspersed with hawthorn-snowberry shrub lands and wet meadows. Evergreen trees are scattered throughout the upland area.

The diverse wetland and riparian communities are used extensively by breeding and wintering waterfowl, foraging water birds, and white-tailed deer. Numerous songbirds and small mammals use the unit for nesting and denning, as well as foraging.

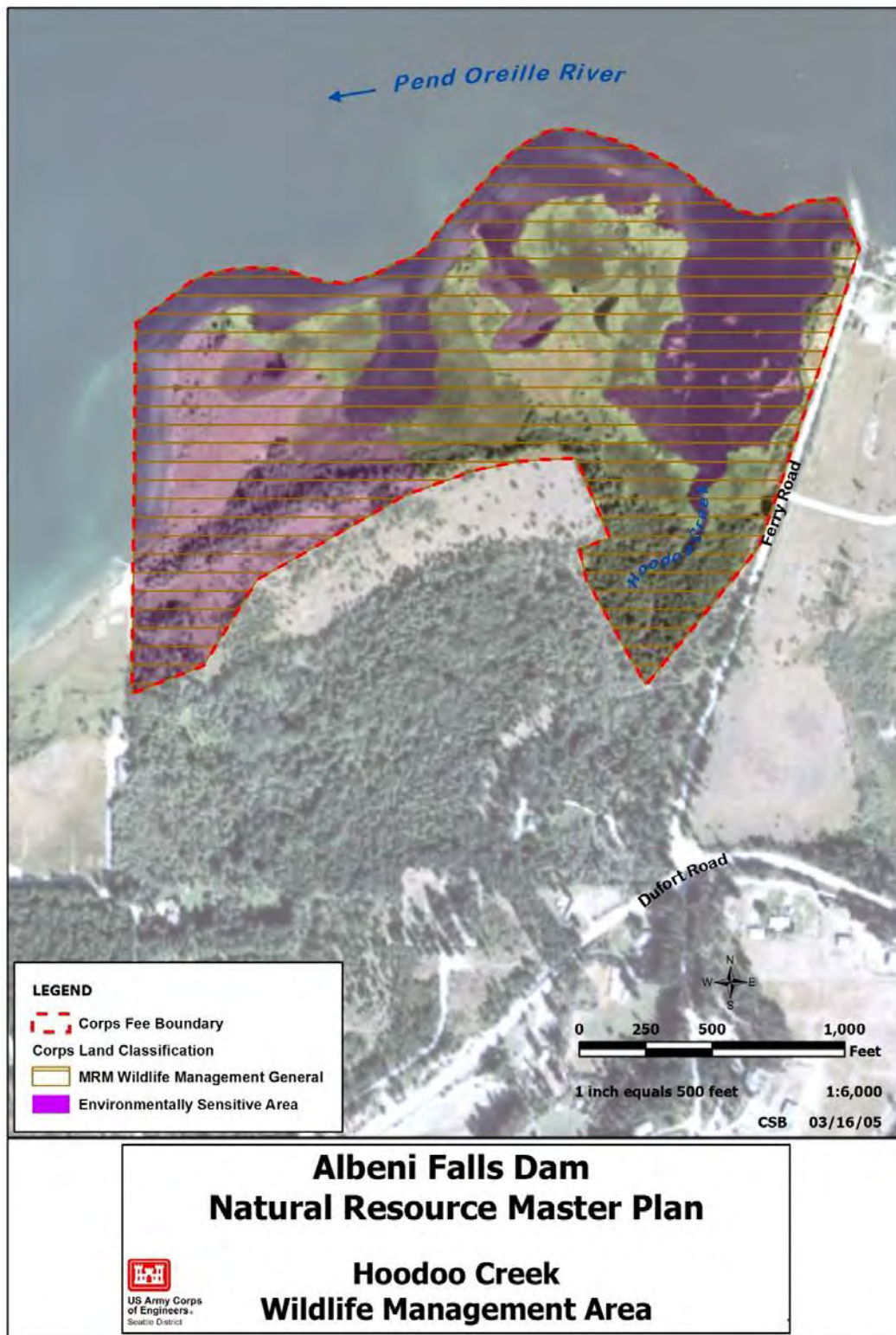


Figure 20. Map of Hoodoo Creek WMA

5.12 MORTON SLOUGH WILDLIFE MANAGEMENT AREA

5.12.1 CLASSIFICATION

Morton Slough WMA has two classifications:

- Multiple Resource Management – Low Density Recreation
- Multiple Resource Management – Wildlife Management, which includes Environmentally Sensitive Areas

5.12.2 MANAGEMENT AGENCY

Idaho Department of Fish and Game, by license, within the Pend Oreille WMA

5.12.3 LOCATION/ACREAGE

The 401.9-acre Morton Slough WMA is located on the southern shore of the Pend Oreille River approximately 12 miles southwest of Sandpoint (Figure 21). The site may be accessed by Lakeshore Drive from the east or from Dufort Road east of Priest River, ID, or west from Highway 95. Acreages are as follows:

- 9 acres Multiple Resource Management – Low Density Recreation (Figure 22)
- 392.9 acres Multiple Resource Management – Wildlife Management
- 303.77 acres Environmentally Sensitive
- 349.32 acres below 2062 feet elevation

5.12.4 DESCRIPTION AND USE

Facilities at Morton Slough includes a boat ramp, floating boat dock, paved parking lot, and pit toilet, all of which are maintained by IDFG. In 2011, IDFG conducted improvements at the boat launch area, which brought the boat launch and parking area into ADA compliance. Overall improvements included paving the parking lot, providing ADA designated parking, accessible toilet, and boarding/fishing dock.

The majority of Morton Slough is low lying and flat (Photo 12). The south peninsula rises slowly from the water's edge to a low knoll at its eastern boundary. The edge at the southwestern boundary falls abruptly to an eroded shoreline. The majority of the peninsula shoreline consists of a gently sloping gradient to the beach. The northwest section contains a pond with a gently rising, grassy shoreline.

The peninsula area is primarily grassland with a zone of upland shrubs merging into mixed, open woods on higher ground. Small cluster of evergreens occur in the grassy areas. Emergent wetland vegetation are present on the shoreline of the river and consist primarily of cattails and reed canary grass. The northern pond has small areas of cattails, with the shoreline dominated by reed canary grass.

The extensive wetlands and shallow, protected waters are an important habitat for a variety of waterfowl and mammals. Osprey and bald eagles feed in the north pond area. Canada geese nest on structures erected by the IDFG. The shallow water areas support a spiny ray fishery.



Photo 12. Morton Slough WMA

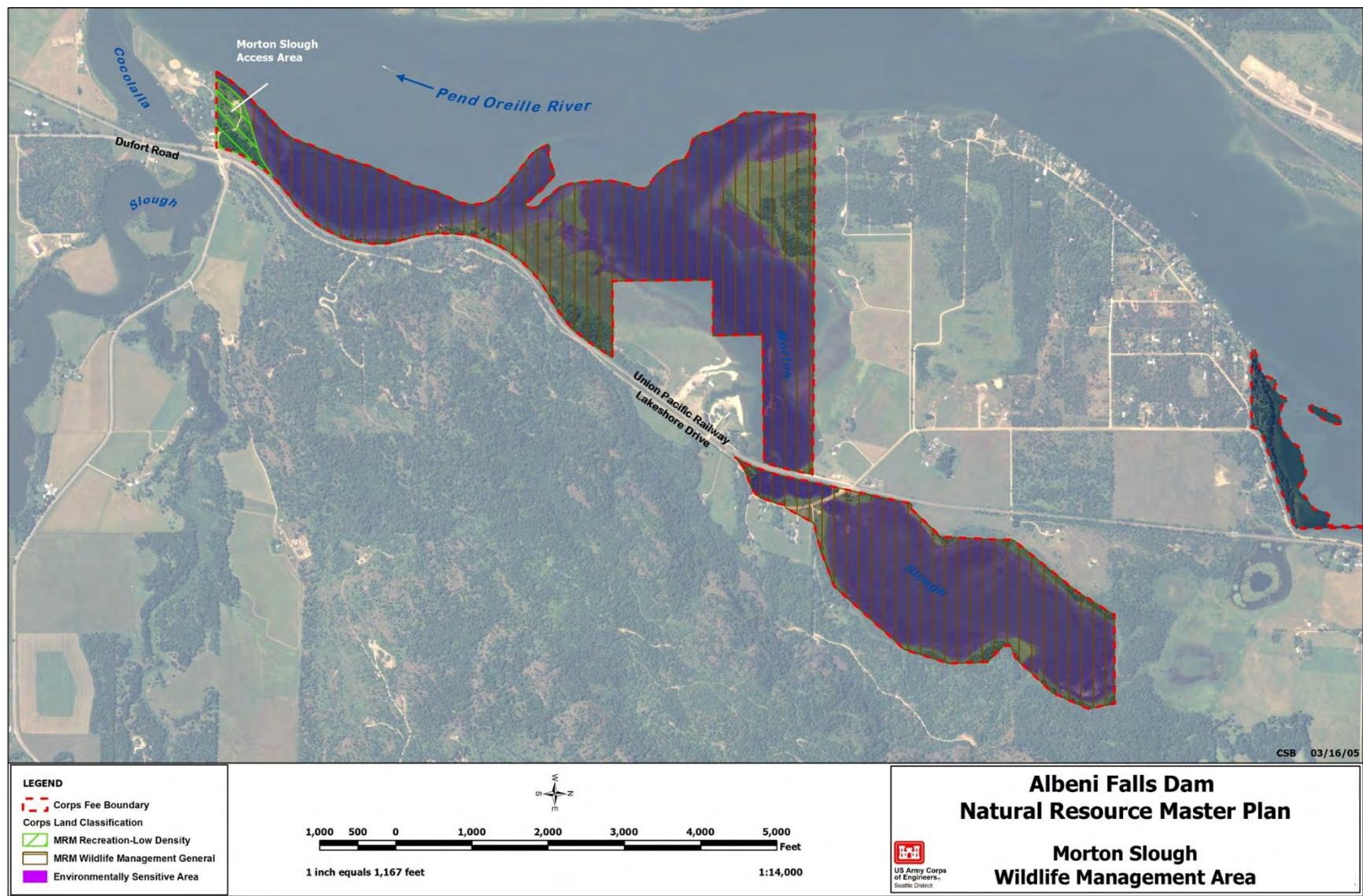


Figure 21. Map of Morton Slough WMA



Figure 22. Map of Morton Slough Access Area, Morton Slough WMA

5.13 MALLARD BAY WILDLIFE MANAGEMENT AREA

Prior to 1996, Mallard Bay WMA was 49.82 acres, and then in 1996 as part of a land exchange, 1.96 acres were returned to private ownership. In return, the Corps received additional acreage (6.24 acres), adjacent to other Corp properties (Ponder Point Management Unit of Oden Bay WMA).

5.13.1 CLASSIFICATION

Mallard Bay is classified as a Multiple Resource Management – Wildlife Management Area.

5.13.2 MANAGEMENT AGENCY

Idaho Department of Fish and Game, by license, within the Pend Oreille WMA

5.13.3 LOCATION AND ACREAGE

The 47.86 acre Mallard Bay WMA is located on the southern shore of the river approximately 12 miles southwest of Sandpoint, ID, south and west of the change in Lakeshore Drive from gravel to asphalt (Figure 23). Within the WMA are the following sub-classification acreages:

- 39.1 acres Environmentally Sensitive Area
- 44.0 acres below 2062 feet elevation



Photo 13. Mallard Bay WMA

5.13.4 DESCRIPTION AND USE

The Mallard Bay WMA is long and narrow, with an adjacent subdivision on the west end (Photo 13). Residents of the subdivision were encroaching on the west portion with structures and boat docks. While the entire WMA is licensed for wildlife management, limited wildlife habitat values remain on the west end due to the impacts by the subdivision encroachment.

Mallard Bay forms the western edge of an embayment that provides shelter from winter winds for waterfowl. The uplands provide valuable habitat for a variety of passerines and songbirds. Game animals include white-tailed deer, pheasant, and waterfowl. Shallow water areas support a significant spiny ray fishery.

Mallard Bay forms the western edge of an embayment that provides shelter from winter winds for waterfowl. The uplands provide valuable habitat for a variety of passerines and songbirds. Game animals include white-tailed deer, pheasant, and waterfowl. Shallow water areas support a significant spiny ray fishery.

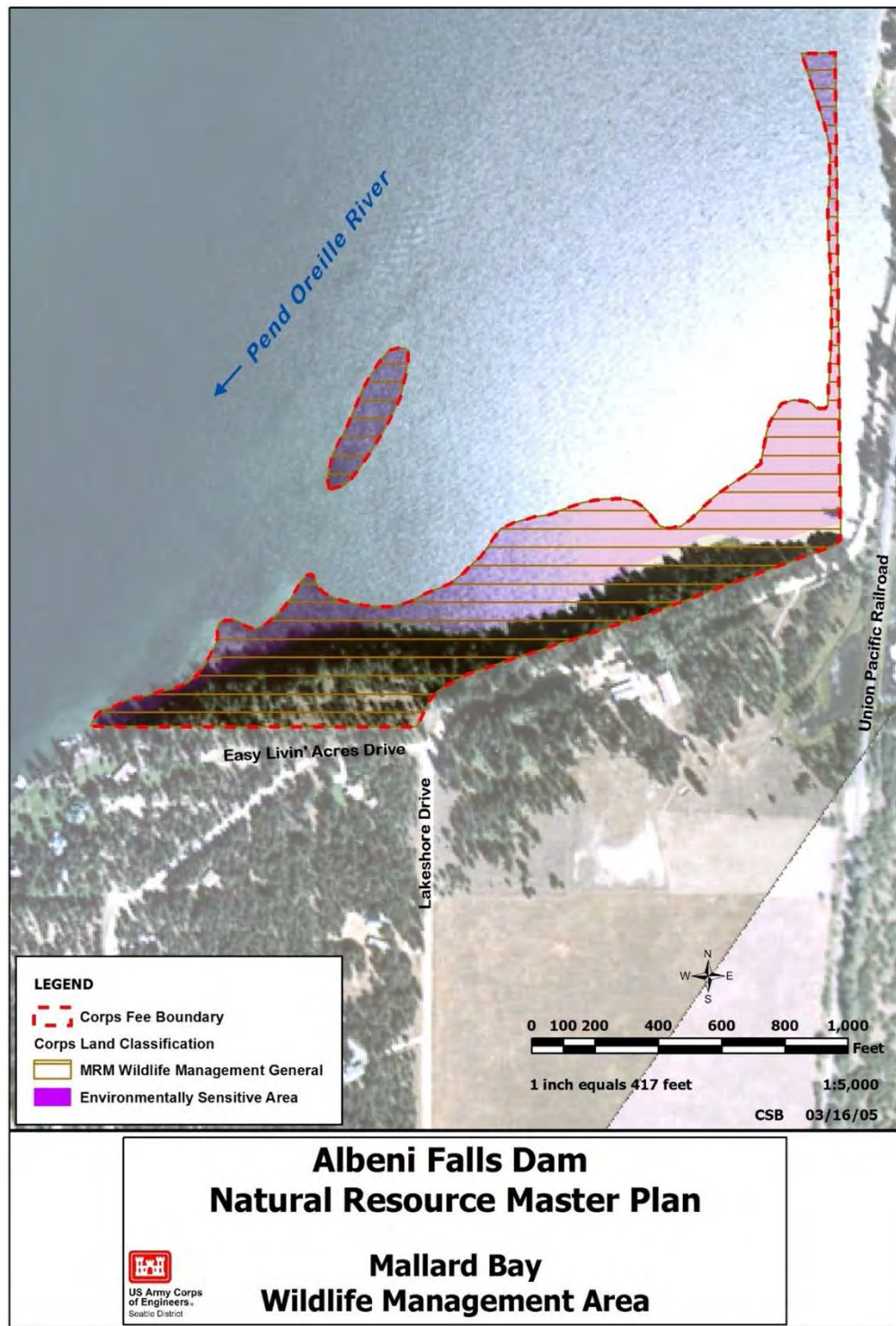


Figure 23. Map of Mallard Bay WMA

5.14 MUSKRAT LAKE WILDLIFE MANAGEMENT AREA

5.14.1 CLASSIFICATION

Multiple Resource Management – Wildlife Management Area with the sub-designation of Environmentally Sensitive Area.

5.14.2 MANAGEMENT AGENCY

Idaho Department of Fish and Game, by license, within the Pend Oreille WMA

5.14.3 LOCATION AND ACREAGE

The 2-acre Muskrat Lake WMA is located approximately five miles west of Sandpoint, ID, on the southern shore of the Pend Oreille River (Figure 24). The entire site is considered an Environmentally Sensitive area. The WMA is bordered on the landward side by a railroad embankment, and is accessible by boat or foot.

5.14.4 DESCRIPTION AND USE

Muskrat Lake WMA relatively level, consisting of water and emergent marshes gradually rising into drier uplands (Photo 14). Mudflats are evident when water levels have receded. The east end of the site rises abruptly at the toe to the top of the railroad embankment. The wetland areas consist of emergent vegetation including cattail and reed canary grass. Uplands are vegetated with lodgepole pine woods and shrubs. The site is valuable as a fall resting and foraging site for waterfowl. The riparian habitat supports a variety of birds and small mammals.



Photo 14. Muskrat Lake WMA



Figure 24. Map of Muskrat Lake WMA

5.15 CARR CREEK WILDLIFE MANAGEMENT AREA

5.15.1 CLASSIFICATION

Multiple Resource Management – Wildlife Management Area, with the sub-designation of Environmentally Sensitive Area.

5.15.2 MANAGEMENT AGENCY

Idaho Department of Fish and Game, by license, within the Pend Oreille WMA

5.15.3 LOCATION AND ACREAGE

The 15.34-acre Carr Creek WMA is located on the northern bank of the Pend Oreille River approximately five miles west of Sandpoint, ID, sitting in an intersection between two railroad embankments (Figure 25). Access to the WMA is by a short dirt road from Highway 2 or by boat. Acreages within the WMA are as follows:

- 12.32 acres Environmentally Sensitive
- 11.34 acres below 2062 ft elevation

5.15.4 DESCRIPTION AND USE

Carr Creek WMA is comprised of the flood plain of Carr Creek that has extensive mudflats, which are exposed upon drawdown. Overall, it has a flat topography with a mosaic of low uplands, emergent vegetation, and water (Photo 15). Vegetation on the uplands include hawthorns and associated deciduous shrubs and grasses. A small area of reed canary grass occurs on the east portion of the WMA at the lake's edge. Migrating waterfowl use Carr Creek heavily for feeding. Some nesting may also occur on the uplands by waterfowl. Songbirds and small mammals utilize the area for foraging, nesting, and denning.



Photo 15. Carr Creek WMA



Figure 25. Map of Carr Creek WMA

5.16 HORNBY CREEK WILDLIFE MANAGEMENT AREA

5.16.1 CLASSIFICATION

Multiple Resource Management – Wildlife Management Area, which includes the sub-classification of Environmentally Sensitive Area.

5.16.2 MANAGEMENT AGENCY

Idaho Department of Fish and Game, by license, within the Pend Oreille WMA

5.16.3 LOCATION AND ACREAGE

The 30.87-acre Hornby Creek WMA is an isolated area on the northern bank of the Pend Oreille River upstream from Carr Creek WMA (Figure 26). The creek bisects the property from east to west, with small channels running north and south. In 1999, an acquisition was completed between the Corps and Bonner County that added approximately 21 acres of property on the western border of the original site (6 acres above 2062.5, 15 acres below). In the WMA are the following sub-classification acreages:

- 21.68 acres Environmentally Sensitive Areas
- 19.27 acres below 2026 feet elevation

5.16.4 DESCRIPTION AND USE

Hornby Creek WMA is level with only a slight rise from the water's edge to the upland areas (Photo 16). Extensive mudflats are exposed upon drawdown. The WMA is dominated by wet meadows with reed canarygrass and sedges. Overstory species include alder and Douglas fir, with associated upland shrub species. The site provides valuable habitat for a variety of waterfowl, beaver, white-tailed deer, and numerous small birds and mammals.



Photo 16. Hornby Creek WMA

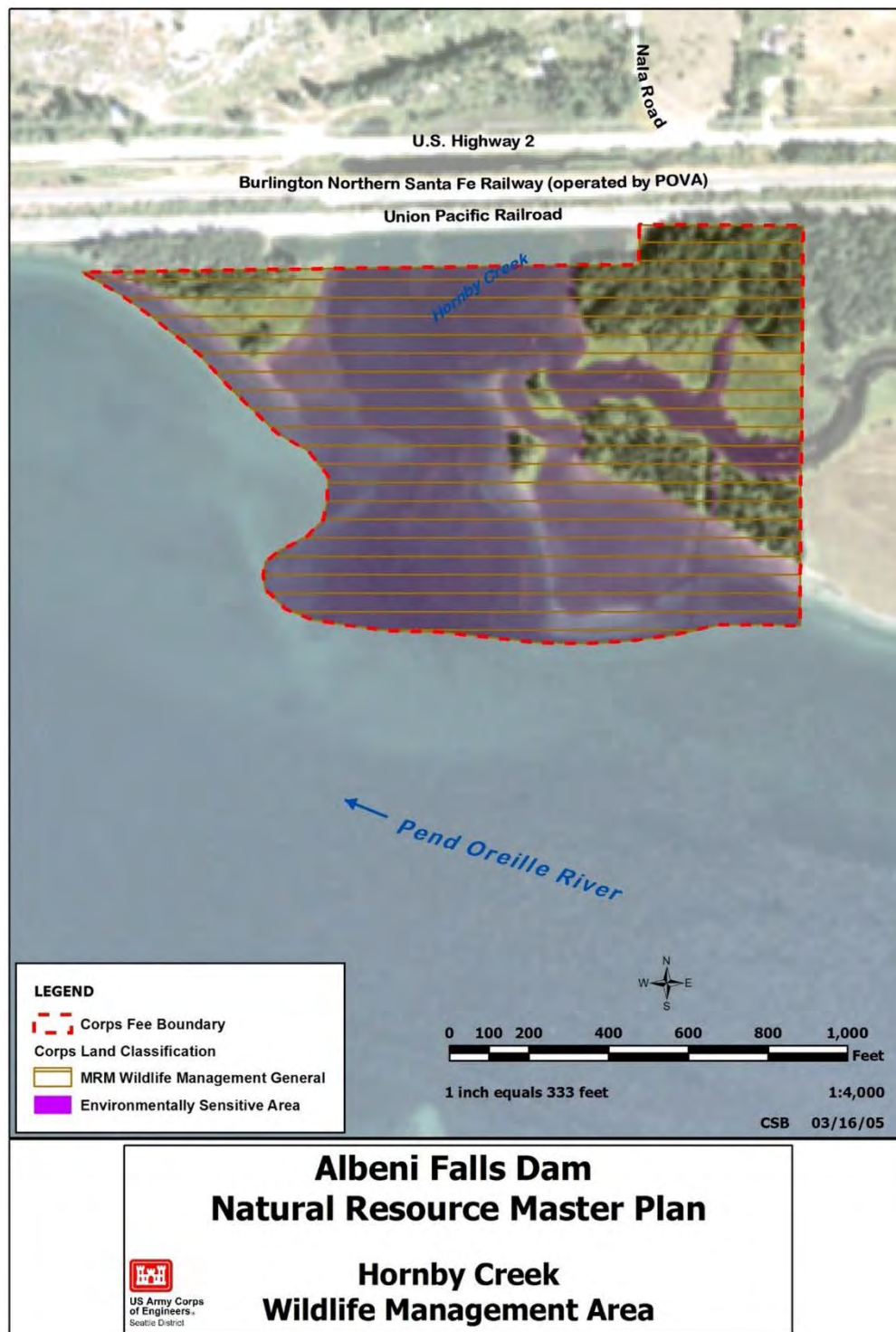


Figure 26. Map of Hornby Creek WMA

5.17 SPRINGY POINT RECREATION AREA

5.17.1 CLASSIFICATION

High Density Recreation Area, with the sub-classification of Environmentally Sensitive Area

5.17.2 MANAGEMENT AGENCY

U.S. Army Corps of Engineers

5.17.3 LOCATION AND ACREAGE

The 32.24 acre Springy Point Recreation Area is located on the south shore of the Pend Oreille River 3 miles west of U.S. Highway 95 (Figure 27). Within the recreation area are the following sub-classifications:

- 17.83 acres Environmentally Sensitive Areas
- 21.46 acres below 2062 feet elevation

5.17.4 DESCRIPTION AND USE

The recreation area consists of the following public use facilities: 39 campsites with no hookups, two park attendant sites with full hookups, swim area, boat ramp with courtesy dock, shower house/restroom, restroom, vault toilet, dump station, park office, paved roads and graveled parking lots. The area is generally open from mid-May to mid-October, with walk-in use during the winter months. The estimated average visitation is 24,247 people per year. A representative photo of the Springy Point Recreation Area is provided as Photo 17.



Photo 17. Springy Point Recreation Area

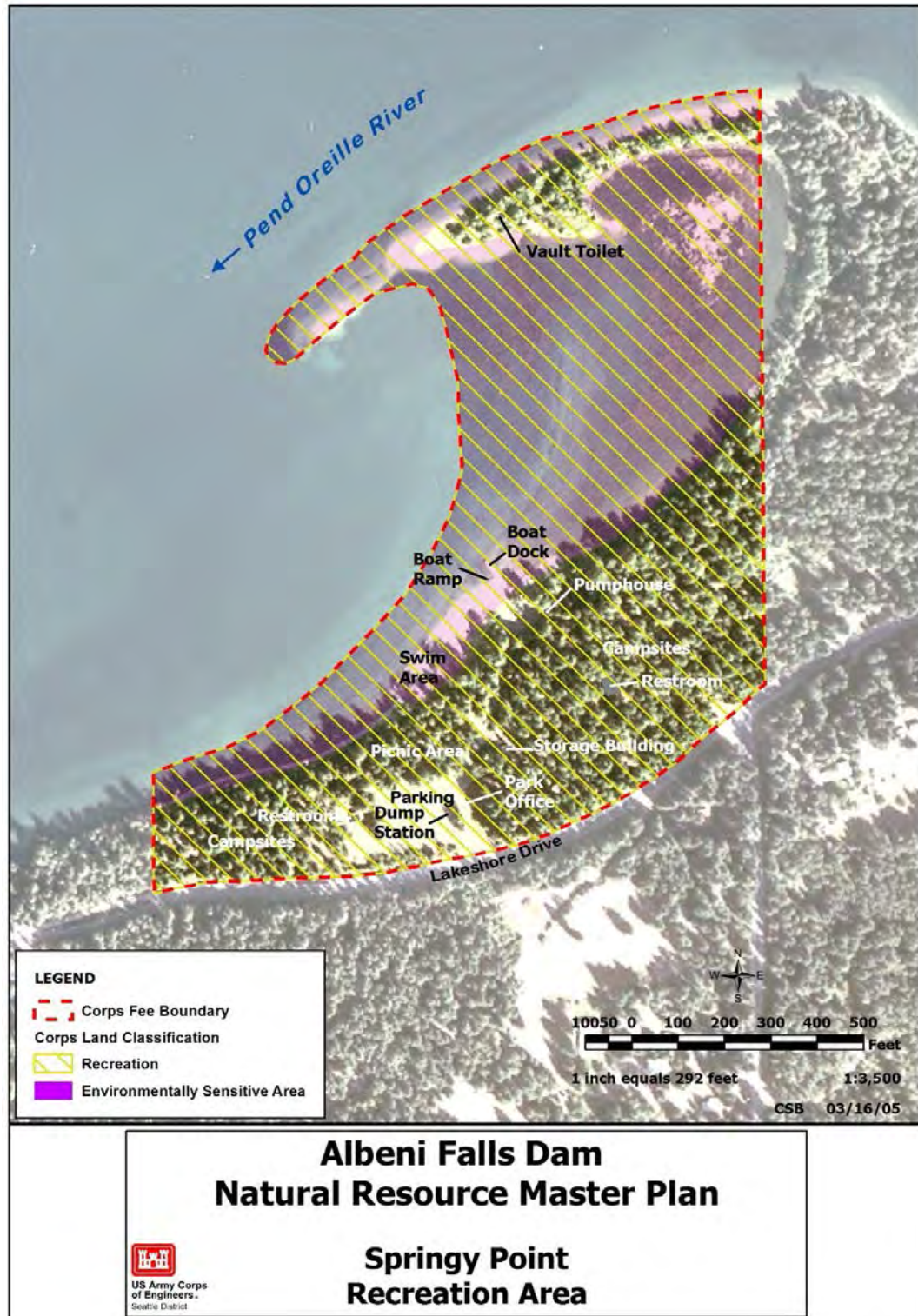


Figure 27. Map of Spring Point Recreation Area

5.18 PONDER POINT WILDLIFE MANAGEMENT AREA

Prior to 1996, Ponder Point Management Unit was a separate and small parcel, 1.25 acres, that was included as part of license with IDFG for Oden Bay WMA. With the 1996 land exchange (Section 1.1), the Corps received a total 6.24 acres bordering Ponder Point. This acreage is currently unzoned but is part of the total Corps-owned fee lands.

5.18.1 CLASSIFICATION

Multiple Resource Management – Wildlife Management Area, which includes the sub-classification of Environmentally Sensitive Area.

5.18.2 MANAGEMENT AGENCY

Idaho Department of Fish and Game, by license, within the Pend Oreille WMA

5.18.3 LOCATION AND ACREAGE

Ponder Point WMA is located south and west of the town of Ponderay between the railroad and shoreline (Figure 28), and is accessible by foot and boat. Total acreage is 5.62 acres, with 2.58 acres designated as Environmentally Sensitive.

5.18.4 DESCRIPTION AND USE

Ponder Point WMA is located on a south-facing slope. Most of the lower portion near the lake's edge was protected from erosion by riprap placed in 1995 and 1996 as part of a railroad protection project (Photo 18.) The upper portion is composed of slopes with depressions in which water is ponded.



Photo 18. Ponder Point WMA

Vegetation is composed primarily of mixed tree species, including conifers and deciduous trees associated with wet areas. A wide diversity of animals typical of wetland habitats use the area for foraging and breeding. Osprey have been observed nesting on the site, and waterfowl utilize the ponded areas. A wide variety of songbirds and small mammals use the site throughout the year.



Figure 28. Map of Ponder Point WMA (a section of Oden Bay WMA)

5.19 ODEN BAY WILDLIFE MANAGEMENT AREA

5.19.1 CLASSIFICATION

Multiple Resource Management – Wildlife Management Area, which includes the sub-classification of Environmentally Sensitive Area. Classification of the entire area as WMA is a change from the classification in the previous 1981 Master Plan, which classified part of Oden Bay (22.36 acres) as Recreation – Low Density. Proposed recreational development (tent campground, nature trail, and boat dock) were never constructed.

5.19.2 MANAGEMENT AGENCY

Idaho Department of Fish and Game, by license, within the Pend Oreille WMA

5.19.3 LOCATION AND ACREAGE

The 397.83 acre Oden Bay WMA is located on the north shore of Lake Pend Oreille approximately six miles from Sandpoint, Idaho (Figure 29). The WMA consists of two separate parcels: one on the northern end of the bay, and the larger parcel on the eastern end of the bay. Both parcels are accessible by vehicle from Highway 200. Within the WMA are the following acreages:

- 397.83 acres Wildlife Management
- 317.35 acres Environmentally Sensitive
- 324.19 acres below 2062 feet elevation

5.19.4 DESCRIPTION AND USE

The north parcel in Oden Bay consists primarily of water, with a small amount of uplands gradually sloping up from the water's edge (Photo 19). The east parcel in consists of a flood plain between two hills, with the flood plain covering the greatest portion of the



Photo 19. Oden Bay WMA

site. Five small islands occur off the southern end of the east parcel. Extensive mudflats are evident throughout the area during winter drawdown.

The vegetation of the main parcel is extremely diverse, with ponderosa pine/Douglas-fir and Douglas fir/western red cedar forests on the rocky slopes. Abandoned pastures occupy the flat meadowlands with shrubs and aspen groves along the edges. Land-locked wetlands and a small pond are concentrated in a small area between the hills. Shorelines on the north edge of the main unit consist of riparian plant species including reed canarygrass, with a rocky shoreline on the south shore dominated by dryland vegetation. Upland shrubs and grasses dominate the two smaller parcels.

The wetland areas are essential habitat for many wildlife species including large numbers of waterfowl. Redhead ducks use the area extensively during fall and early winter. Geese nest and feed in the marshes, meadows, and upland pastures. Osprey and eagles forage on fish and the waterfowl concentrated at the site. Mammals including white-tailed deer and beaver utilize the area for foraging. Small mammals and songbirds, including riparian and forest species, fulfill all life requisites on the site.

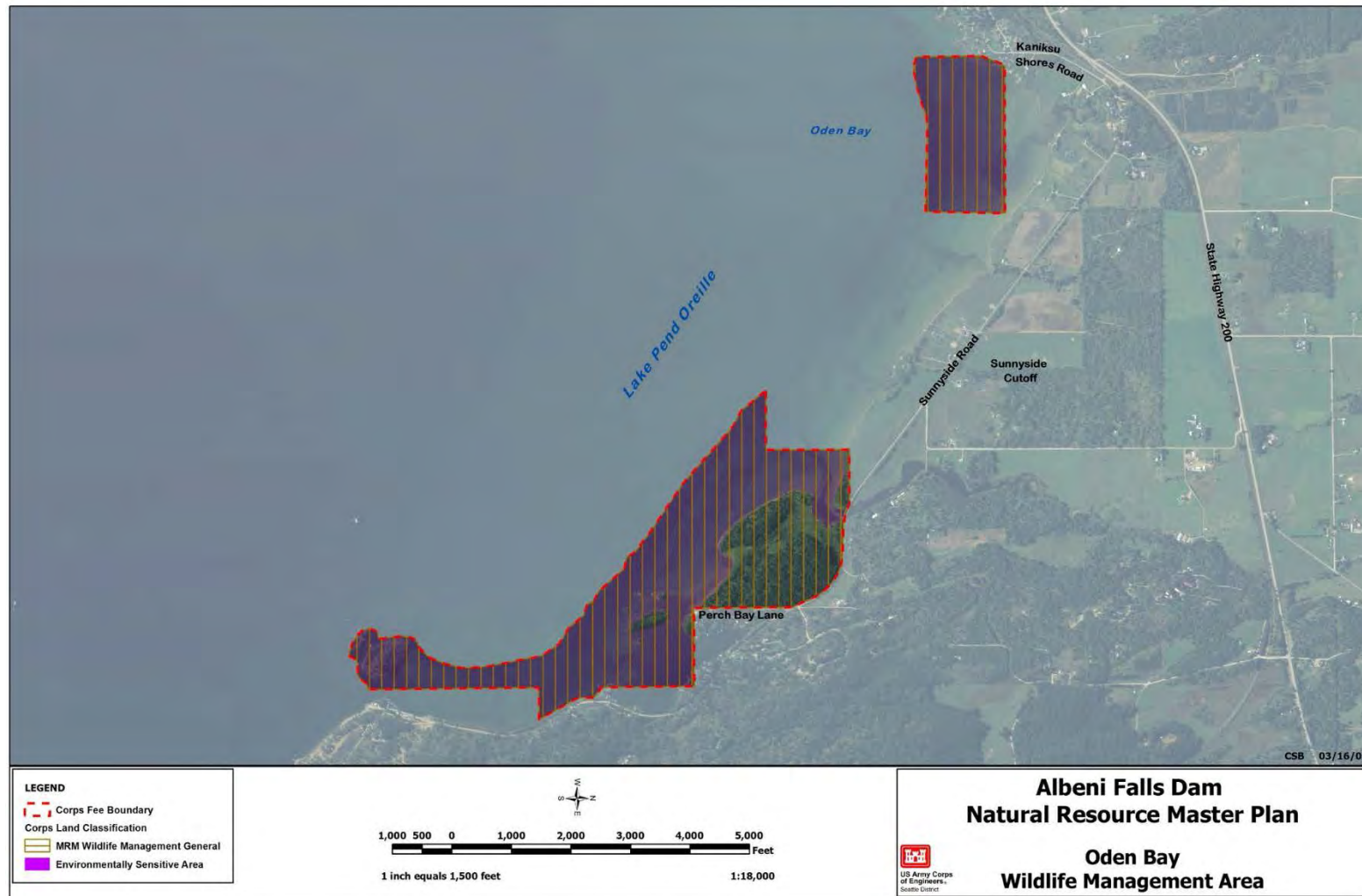


Figure 29. Map of Oden Bay WMA

5.20 PACK RIVER WILDLIFE MANAGEMENT AREA

5.20.1 CLASSIFICATION

The Pack River WMA has two land classifications:

- Multiple Resource Management – Wildlife Management Area
- Multiple Resource Management – Low-Density Recreation, Hawkins Point. This is a change from the 1981 plan to accommodate an existing boat ramp and facilities.

The WMA also includes lands with the sub-classification of Environmentally Sensitive Areas.

5.20.2 MANAGEMENT AGENCY

Idaho Department of Fish and Game, by license, within the Pend Oreille WMA

5.20.3 LOCATION AND ACREAGE

The 1,373.96 acre Pack River WMA empties into the north shore of Lake Pend Oreille approximately ten miles east of Sandpoint, ID, creating a delta through which the river flows (Figure 30). Within the Pack River WMA are the following acreages:

- 0.18 acres Low Density Recreation, Hawkins Point (Figure 31)
- 1,373 acres Multiple Resource Management – Wildlife Management Area
- 1,246.06 acres Environmentally Sensitive Area
- 1,253.96 acres below 2062 feet elevation.

The WMA begins at the Pack River Bridge, Highway 200, and extends south beyond the Burlington Northern Railroad, encompassing the bottomlands between the Highway 200 embankment and the toe of the mountain slopes on the west side.

5.20.4 DESCRIPTION AND USE

The Hawkins Point area had a boat ramp, dock, and vault toilet, all of which are maintained by IDFG. Most of the WMA is submerged, with extensive narrow shoreline areas above water (Photo 20). Water channels meander through the bottomlands, leaving exposed land in small islands and strips. The parcel is level with the exception of the slopes along the highway embankment and the shoreline along the western mountains. Extensive mudflats are evident throughout the delta during periods of drawdown.

Reed canary grass and cattail are the primary emergent wetland vegetation, and create islands in the shallower water. There is abundant aquatic plant growth in the shallower areas. Some of the dryer uplands consist of shrubs with associated grasses. Coniferous forests with mixed deciduous tree species are found along both edges of the unit.

A wide diversity of animals typical of wetland habitats use the area for foraging and breeding. Moose feed on submerged vegetation, and migrating and wintering waterfowl congregate on the site. A wide variety of songbirds and small mammals use the site throughout the year. Kamloops rainbow trout and kokanee salmon, as well as other important game fish species, pass through during fall and spring spawning periods.



Photo 20. Pack River WMA

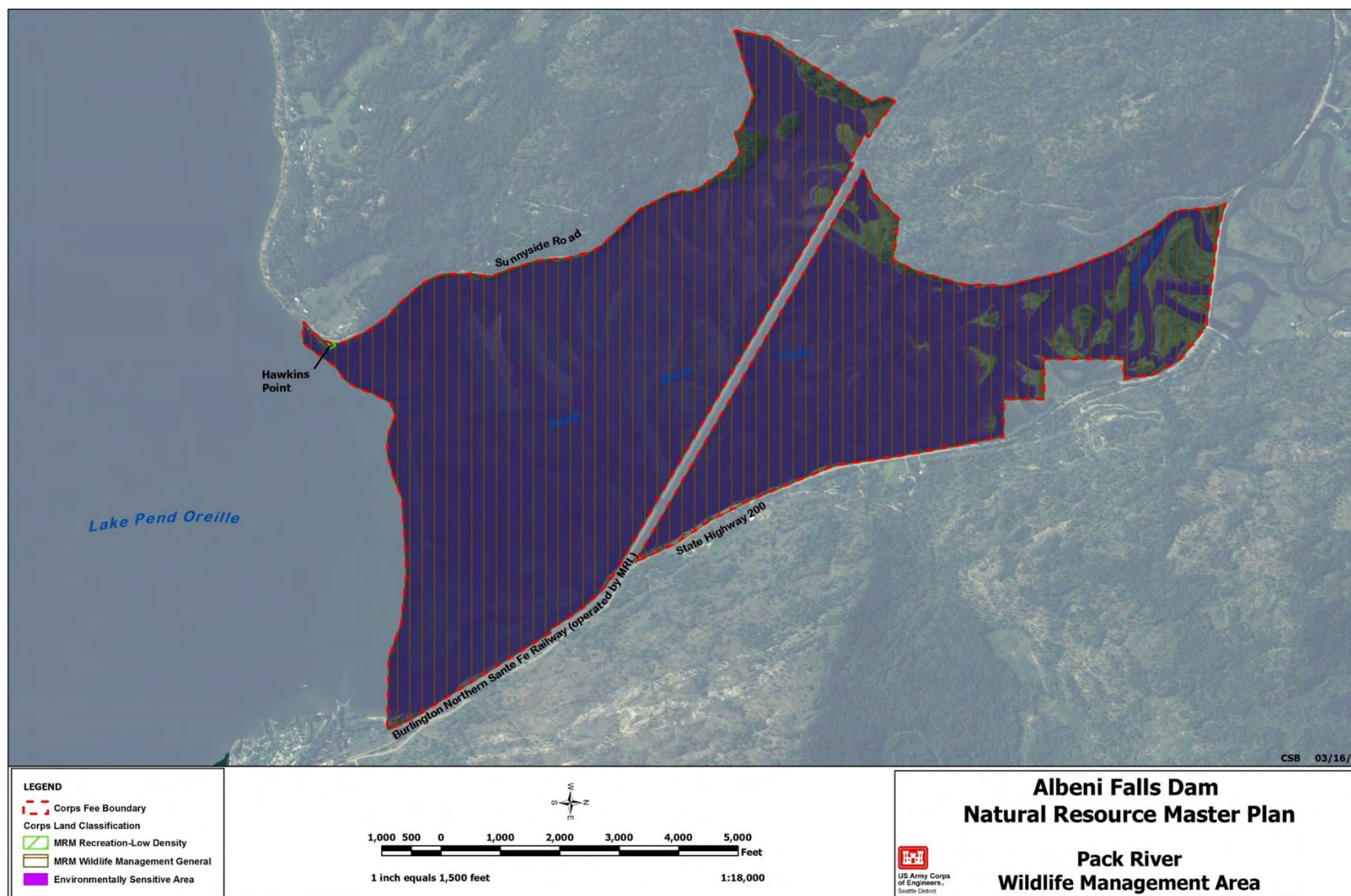


Figure 30. Map of Pack River WMA



Figure 31. Map of Hawkins Point unit, Pack River WMA

5.21 TRESTLE CREEK RECREATION AREA

5.21.1 CLASSIFICATION

Trestle Creek Recreation Area is classified as Recreation

5.21.2 MANAGEMENT AGENCY

U.S. Army Corps of Engineers

5.21.3 LOCATION AND ACREAGE

The 8.80 acre Trestle Creek Recreation Area is located 2 miles north of Hope, Idaho, along State Highway 200, along the north eastern shore of Lake Pend Oreille (Figure 32). Of the total acreage, 6.6 acres are considered Environmentally Sensitive and 7.34 acres are below 2062.0 feet elevation.

5.21.4 DESCRIPTION AND USE

Public use facilities include vault restroom, swim area, picnic area, paved roads, parking areas, and boat ramp with courtesy dock. The recreation area is generally open from mid-May to mid-October, with walk-in use during the winter months. The estimated average visitation is 42,700 people per year. The recreation area is park-like with a flat topography, an overstory of old cottonwoods over lawn. An aspen grove is found adjacent to the entry road. This habitat supports osprey, bald eagle and migratory songbirds.



Photo 21. Trestle Creek Recreation Area

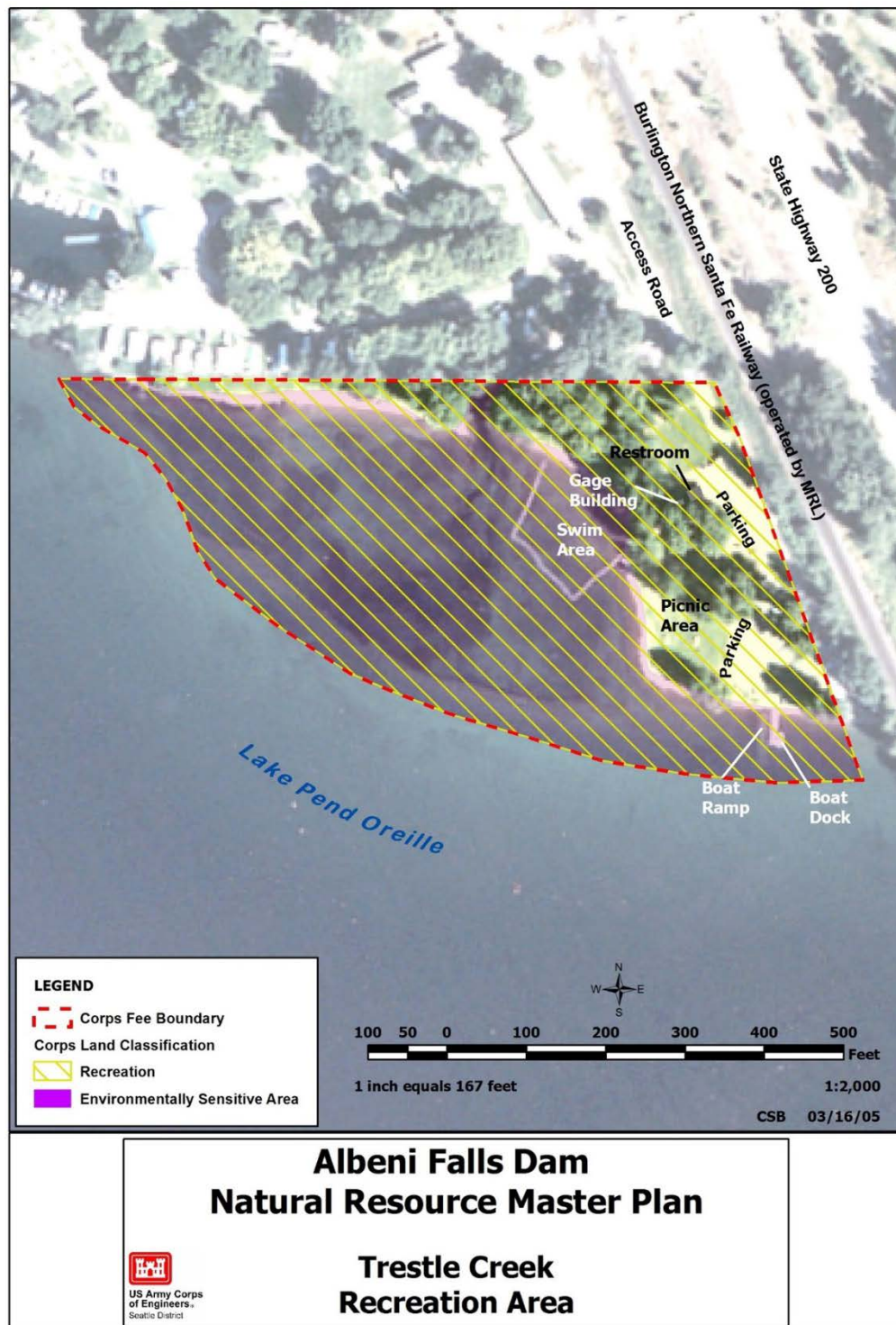


Figure 32. Map of Trestle Creek Recreation Area

5.22 CLARK FORK WILDLIFE MANAGEMENT AREA

5.22.1 CLASSIFICATION

The Clark Fork WMA has three land classifications: Operations, Multiple Resource Management – Low Density Recreation, and Multiple Resource Management – Wildlife Management.

5.22.2 MANAGEMENT AGENCY

Idaho Department of Fish and Game, by license, within the Pend Oreille WMA

5.22.3 LOCATION AND ACREAGE

The 1,309.2 acre Clark Fork WMA lies in the delta area of the Clark Fork River where it enters Lake Pend Oreille (Figure 33). The WMA consists of several geographical areas; on the north side, Denton Slough and the Driftyard abut the Highway 200 embankment (Figure 34), with access from pull-offs on the highway or on a graveled road through the driftyard. The southern portion includes several islands and the Johnson Creek Recreation Area (Figure 35), which is accessible from a graveled county road running on the south side of the river. Both areas are accessible by boat. In addition, two small parcels exist on the north side of Highway 200, with another small, narrow strip on the south side of the river. Lastly, another small parcel is found southeast of the Driftyard between the Burlington Northern Railroad and the north fork of the river (Figure 33).

Acreages within the Clark Fork WMA are as follows:

- 59.43 acres Operations, the Driftyard
- 8.81 acres Low Density Recreation, Johnson Creek Recreation Area (This is a change from the 1981 Master Plan which had the area classified as Intensive Recreation.)
- 1,240.96 acres Wildlife Management Area (This is a change from the 1981 Master Plan removing part of the acreage from the Project Operations classification and reclassifying to the Wildlife Management General classification.)
- 768.43 acres Environmentally Sensitive Area
- 578.2 acres below 2062 feet elevation

5.22.4 DESCRIPTION AND USE

The Clark Fork WMA is typical of river delta lands and consists of meander channels and marshy islands intermixed with higher shoreline edges (Photo 22). Most of the drylands are level to slightly undulating, with pockets of wetlands in the lower elevations. Extensive mudflats are evident throughout Denton Slough and the driftyard area during periods of drawdown.

Facilities at both Johnson Creek Recreation Area and the Clark Fork Driftyard are maintained by IDFG. Limited camping, 3-day, camping is allowed at Johnson Creek, although, there is not a designated campground. The Clark Fork Driftyard is day-use only. Both locations are accessed by gravel roads and have gravel-parking areas. Neither location has potable water. Facilities at Johnson Creek Recreation Area include a paved

boat launch, dock, and vault toilet. Facilities at the Driftyard include paved boat launch, dock, ADA compliant parking space, and ADA compliant portable toilet.



Photo 22. Clark Fork WMA

The vegetation in the Clark Fork WMA forms a complex mosaic of submerged, emergent, and flood plain habitats. Cattails and reed canary grass are the dominant emergent vegetation. They surround open-water areas having submerged aquatic vegetation. Mature riparian forests cover higher flood-plain lands, including coniferous and deciduous species, with associated shrub species. Small areas of lower land are dominated by shrub wetlands.

The delta has a rich variety of wetland habitats and supports major breeding populations of ducks, geese, osprey, and great blue heron. Waterfowl utilize the area as wintering grounds. Elk, moose, mule deer, and black bear have been observed in the area, and there is a resident population of white-tailed deer. Kamloops rainbow trout and kokanee, as well as other game species, pass through during fall and spring spawning periods. The spiny ray fishery is significant, including bass and crappie.

In 2014, the Bureau of Land Management (BLM) as the Federal Lead, IDFG, and other cooperating agencies began construction on a large restoration project in the Clark Fork River delta. Most of the restoration effort is on land parcels and islands owned by the BLM, and administered by IDFG. The BLM-IDFG project, encompasses multiple land

ownerships, and proposes to protect, improve and restore key riparian, aquatic, and wetland habitats, improving their ecological functions in the Clark Fork River Delta by increasing sediment deposition, increasing emergent wetland habitats, capturing woody debris and reducing bank erosion.

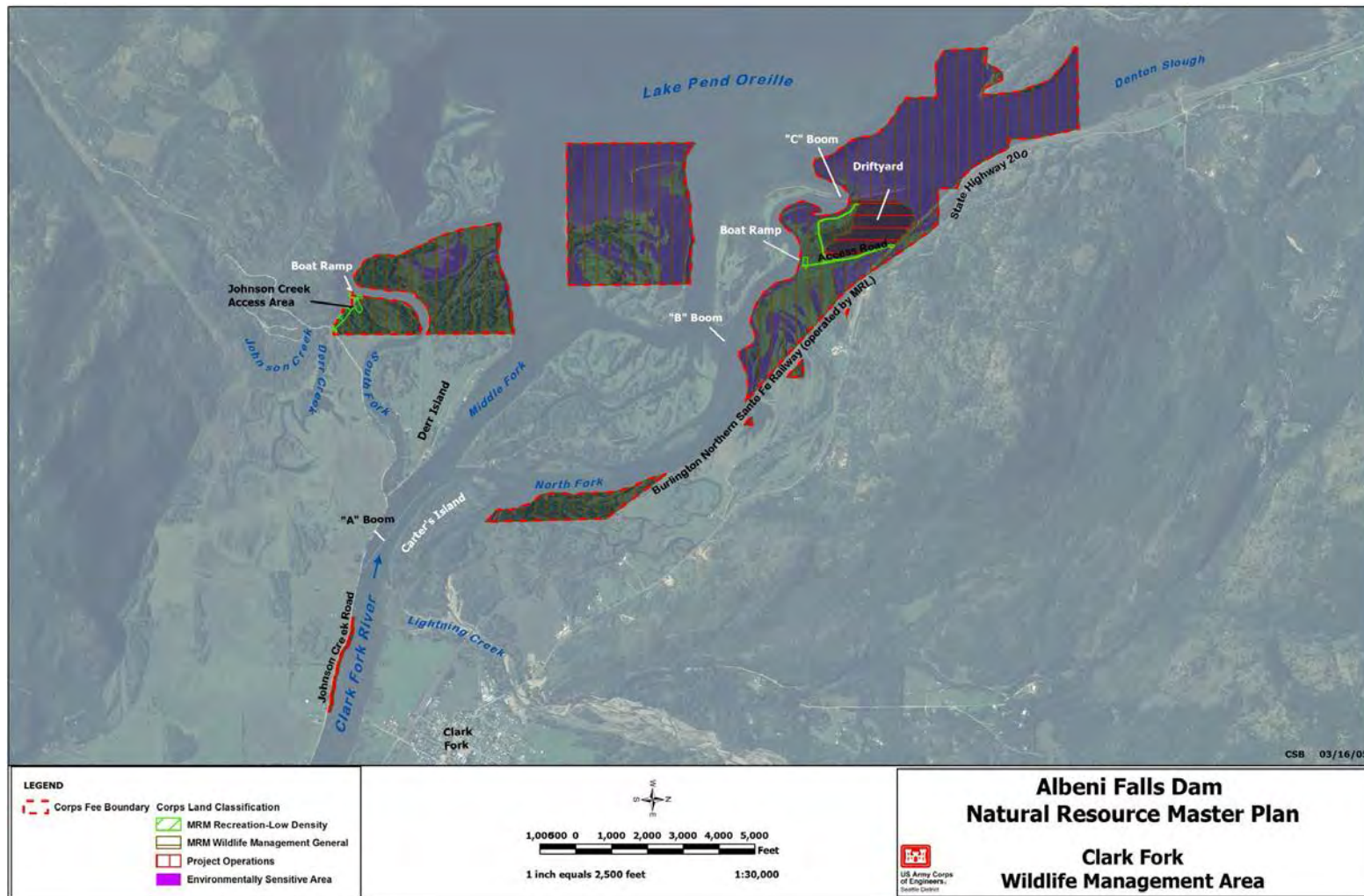


Figure 33. Map of Clark Fork WMA

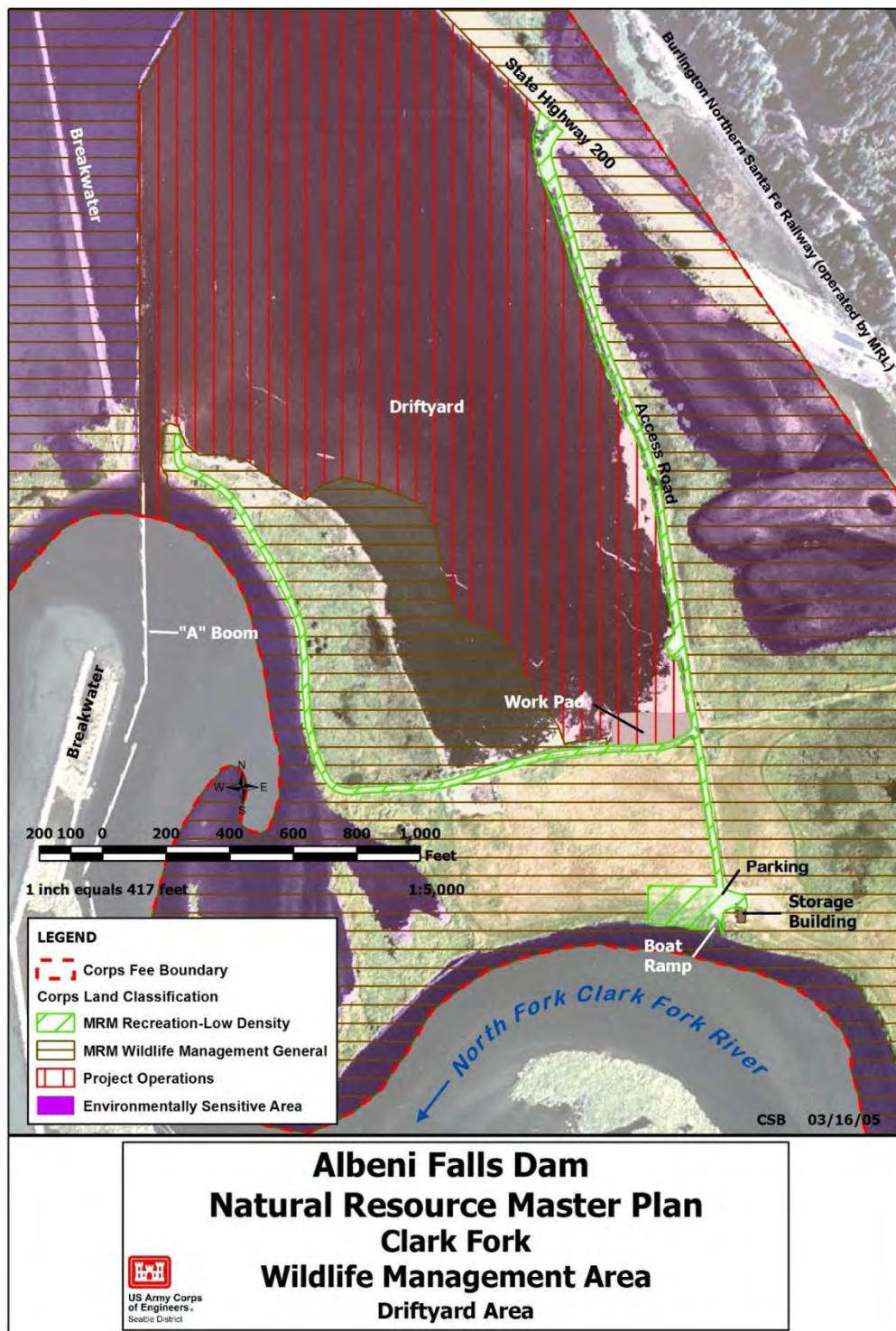


Figure 34. Map of Driftyard unit, Clark Fork WMA

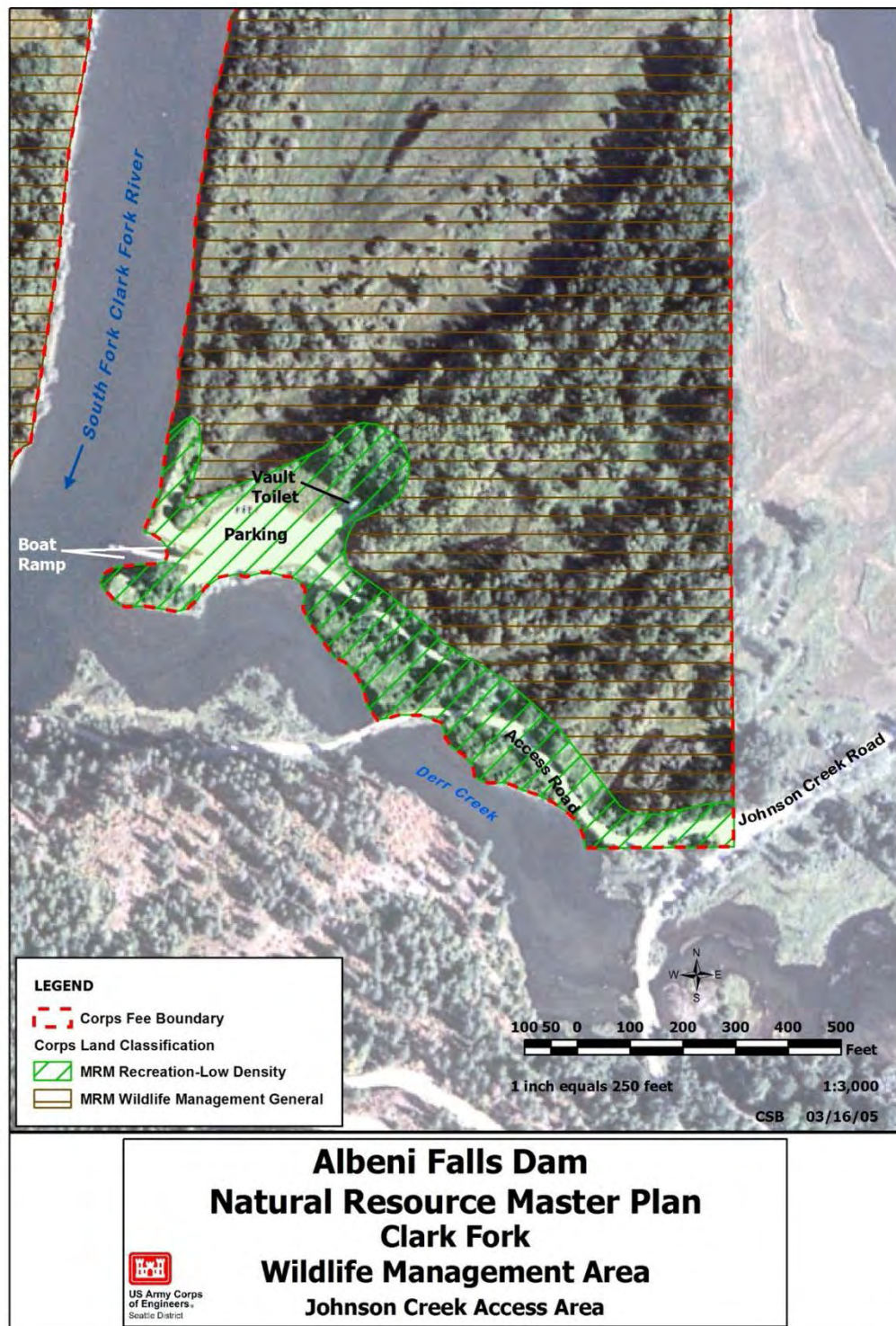


Figure 35. Map of Johnson Creek Access Area, Clark Fork WMA

5.23 DEVELOPMENT NEEDS

Development needs include anything currently proposed or projected to be needed in the future that helps achieve the resource objectives identified including but not limited to: vegetative plans, invasive species control, construction of facilities, cultural monitoring, initiatives, and proposed out-grants. Full descriptions of development needs are given in the Operational Management Plan that is updated annually. Given below is an outline of tasks broken down by land classification areas.

5.23.1 OPERATIONS

- General maintenance and repair of structures. Tasks would include cleaning, painting, repairs, roof replacement, repair/replacement of pilings and docks, etc. Structures include – powerhouse, spillway, transformer yard, maintenance buildings, storage sheds, pump houses, docks, retaining walls, and drift facility
- Maintenance and repair of roads/trails/boat ramp. Tasks would include patching, surface replacement (paved and gravel), and leveling
- Maintenance, repair, and/or replacement of infrastructure, which includes power, sewer, and water lines
- Vegetation – hazard tree removal, brush clearing, planting, seeding, weed management, irrigation, and invasive species control
- Maintenance, repair, replacement, and upgrades to Amenities such as benches, picnic tables, picnic areas.
- Repair and replacement of signs, fences, and gates
- Coordination with District cultural resources staff regarding maintenance activities to ensure that the significant aspects of the historic district are maintained

5.23.2 RECREATION AREAS

- Out-grants to ISDA for boat inspection station (safety and aquatic nuisance species control)
- Cultural resources inventory and/or monitoring. Continue working with local Tribes and Idaho SHPO to protect, maintain, and mitigate historic properties and cultural sites
- General maintenance and repair of structures. Tasks would include painting, roof replacement. Structures include office buildings, bathroom, bathhouses, amphitheaters, storage sheds, pump houses, picnic shelters, kiosks and information boards, fishing piers, docks, retaining walls, and fire caches
- Maintenance, repair, and/or replacement of safety equipment including contents of fire caches, pilings, buoys, and buoy lines.
- Maintenance, repair, and/or replacement of roads, trails, footbridges, and wheel stops. Tasks would include painting, patching, surface replacement (paved and gravel), leveling, sealing and striping.
- Repair and replacement of signs, fences, and gates
- Campsite and picnic ground operations, maintenance, and repairs – ground leveling, repair/replacement of picnic tables, fire rings, BBQs, railings, and barrier posts

- Vegetation – Hazard tree removal, brush clearing, planting, seeding, weed management, invasive species control, repair/replacement/maintenance of irrigation systems
- Maintenance, repair, and/or replacement of infrastructure, which includes water, sewer, power, dump stations, and lift stations.
- Repair and maintenance of boat ramp, docks, tie downs, fishing piers, and pilings
- Maintenance of beaches and swimming areas, including sweeping, replacement of buoy lines, and beach nourishment (replacement of sand)
- Repair, replacement, maintenance, and upgrades to amenities such as benches, picnic areas, playgrounds, play fields, and sport courts

5.23.3 WILDLIFE MANAGEMENT AREAS

- Out-grant to IDFG by license for benefit of wildlife and fisheries habitat. The license is on a 25-year cycle, and the most recent renewal occurred in 2008 (expires on September 20, 2033)
- Cultural resources inventory and/or monitoring. Continue working with local Tribes and Idaho SHPO to protect, maintain, and mitigate adverse effects to historic properties
- Invasive species control including aquatic and terrestrial species

5.24 SPECIAL CONSIDERATIONS

Special Considerations are special issues directly affecting the management of an area. These could include but are not limited to legal issues, cultural sites, adjacent land use, and environmental concerns.

5.24.1 OPERATIONS

Albeni Falls Dam and the Powerhouse was constructed in the early 1950's and is part of the Albeni Falls Dam historic district. The AFD historic district includes the powerhouse, spillway dam, log passing chute, and the BPA switchyard and transformer yard. Other features of significance include the entrance deck and public reception, observation gallery/lobby, remnant cofferdam abutments, Powerhouse Gantry Crane/Draft Tube Gantry Crane. The AFD historic district is eligible for listing on the National Register and the Corps has received concurrence from the Idaho SHPO regarding the historic district.

5.24.2 RECREATION AREAS

5.24.2.1 Historic Properties

In order to fulfill the federal obligation to protect cultural resources as required by NHPA, activities on Corps properties may affect both traditional cultural properties and historic properties of religious and cultural significance to Indian Tribes. Both the *AFD Historic Property Management Plan* and a *FCRPS Systemwide Programmatic Agreement* provide guidance for management, maintenance, and repair of historic properties.

- Historic Property is defined as “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the

National Register of Historic Places maintained by the Section of the Interior. This term includes artifacts, records, and remains that are related to within such properties

- Traditional Cultural Property – a property that may be “eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community’s history, and (b) are important in maintaining the continuing cultural identity of the community” (NPS 1990). The property must meet the requirements defined in 36 C.F.R. § 60.4 and Bulletin 38.
- Historic Properties of Religious and Cultural Significance to an Indian Tribe is a type of Traditional Cultural Property. Unlike a Traditional Cultural Property, to which any group or organization can ascribe significance, the term "*historic properties of traditional religious and cultural significance to an Indian tribe*" is used in Federal law and regulation to describe an historic property to which specifically an Indian tribe attaches spiritual or cultural value. Section 101(d)(6)(A) of the NHPA states that "*Properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization may be determined to be eligible for inclusion on the National Register.*" As with any historic property, a Historic Property of Religious and Cultural Significance to an Indian Tribe must be a property (i.e., be a physical place), and needs to have a history of use for traditional religious and cultural activities or association with religious or cultural beliefs in the past. However, the property does not have to have been in continual use up to the present day, and its association with beliefs may have been revitalized in recent times after a period of quiescence or suppression.

5.24.2.2 Adjacent Land Use

Adjacent land uses can put additional pressure on, and/or detrimentally affect Corps recreation lands. These pressures include subdivision development, illegal dumping, encroachment, and trespass. Results of which can mean increased costs for fence repairs, garbage and refuse removal, purchase of plants and staff time to revegetation of unauthorized trails. Encroachments and trespasses from adjacent property owners include construction of docks, waterlines, and outbuildings.

5.24.2.3 Legal Issues

Legal issues include vandalism and property theft, break-ins (structures), lock cutting and gatecrashing in the closed season, off-road trails, tagging/graffiti, timber theft, drug activity and looting of archaeological sites and the removal of artifacts from Government land. These expend limited resources and can result in citations by AFD personnel or incidents referred to the Bonner County Sheriff’s Department for immediate law enforcement assistance.

Timber theft includes removing dead and down wood for off-site use, tree felling, and tree removal. Per CFR Title 36 §327.14(b), *Cutting or gathering of trees or parts of trees and/or the removal of wood from project lands is prohibited without written permission of the District Commander.* Although firewood gathering (dead

and down wood) is allowed for in-park use (Title 36 §327.14(c)), the removal of wood for off-site use is not allowed in any of the recreation areas. Off-site tree and wood removal not only can affect forest and habitat health, the activities can cause safety issues (property damage, life and health, etc.), and it takes away from the natural setting and quality of the recreation area.

5.24.2.4 Environmental Concerns

Vehicle leaks, dumping of gray water, dumping of human waste, motorized off-road vehicle (ORV) use can cause environmental damage to vegetation, water quality, and soils. Environmental concerns can cause health and safety issues for park visitors as well as for AFD personnel, damage sensitive habitats, and increase the spread of noxious weeds.

5.24.3 WILDLIFE MANAGEMENT AREAS

5.24.3.1 Cultural sites

As presented in Recreation Areas Section 5.24.2.1, cultural sites within WMA also require special considerations. The information presented in the previous section (5.24.2.1) holds true for cultural sites in WMAs.

5.24.3.2 Encroachments and Trespasses

Encroachments and trespasses on easement lands may occur where unauthorized structures (habitable, outbuildings, hunting blinds, or boat moorings) have been constructed or placed in easement areas in violation of the terms of the easements. Encroachments and trespasses are resolved through written or personal communication by IDFG and/or Corp staff.

5.24.3.3 Legal Issues

Vandalism continues to be a problem in the WMAs. Past issues have included tagging, damage of structures, lock cutting and/or gatecrashing to closed areas, break-ins (vehicles and structures), shooting of signs, and looting of archaeological sites and the removal of artifacts from Government land.

Although WMA lands are administered by IDFG, federal regulations still apply, and the removal of timber, parts of trees, and wood is prohibited (Title 36 §327.14(b)). Driftwood in the Clark Fork Driftyard is classified as “drift” (similar to other debris) and removal of driftwood within the confines of the Driftyard is allowed. Off-site tree and wood removal damages wildlife and fisheries habitat, preservation of which is one of the specific purposes of a wildlife management area, it also detrimentally affects forest health, and can cause safety issues (property damage, life and health, etc.).

Depending on the type and severity of the legal issue, a particular situation may be handled by IDFG, AFD staff, Corps Seattle District staff, or referred to Bonner County Sheriff’s Department.

5.24.3.4 Environmental Concerns

Similar to the Recreation Areas (Section 5.24.2.4), environmental concerns in the WMAs include off-road vehicle use, garbage dumping, and leakage from boats and vehicles.

5.25 FUTURE IMPROVEMENT GOALS

5.25.1 OPERATIONS

Future improvement goals at the dam include construction of a fish passage facility to facilitate upstream passage of ESA listed bull trout and other native fish species. The fish passage project is currently under study, and will be addressed in a separate NEPA document.

5.25.2 RECREATION AREAS

Future improvement goals in recreation areas include:

- Improve all campgrounds to include power and water to defined campsites.
- Barrier-Free Facility Design – When developing new, or rehabilitating existing recreation facilities/opportunities, effort should be made to comply with reasonable universal accessible accommodations. In addition, special emphasis should be placed on programs that increase participation of people with physical, developmental, and sensory disabilities in outdoor activities.
- Installation of one-way traffic control spike-barrier gates at recreation area entrances.

5.25.3 WILDLIFE MANAGEMENT AREAS

Fish and wildlife conservation is one of the five authorized purposes for AFD. The WMAs are under 25-year management license to IDFG for the conservation and management of wildlife resources. Priorities of IDFG are:

- Management of wetlands habitats for waterfowl production.
- Provide wildlife-related recreation access, particularly for public hunting, fishing, and wildlife observation.
- Management of wetland and upland habitats for a variety of non-game wildlife species.
- Provide habitat for migrating and wintering waterfowl.

The current license with IDFG extends to September 30, 2033.

Boat launching ramps provide vital public access to Lake Pend Oreille and the Pend Oreille River; however, winter low-water access remains a problem. Ramps will continue to be extended as sufficient public demand exists and funding is available. Longer ramps would make areas more usable and aids in increasing visitation during the low water recreation season.

5.26 DESIGN CRITERIA

Design principles and criteria particularly appropriate to AFD are discussed throughout this subsection. The following design principles and criteria are extracted from Engineering Manual (EM) 1110-1-400, Recreation Planning and Design Criteria. The

EM states, “All project features are designed so that the visual and human-cultural values associated with the project will be protected, preserved, or maintained to the maximum extent possible. Specific ecological considerations include actions to preserve critical habitats of fish and wildlife; accomplish sedimentation and erosion control; maintain water quality; regulate streamflow, runoff, and ground water supplies; and avoidance or mitigation of actions whose effect would be to reduce scarce biota, ecosystems, or basic resources. In the development of individual project features, consideration is given to the needs for architectural design, land treatment, or other resource conservation measures. Emphasis is given to developing measures for realizing the full scenic potential of the project feature as it affects the overall project. This is accomplished by providing for cover reforestation, erosion control, landscape planting, management of vegetation, healing of construction scars, prevention of despoilment, and other related activities for all Corps lands.”

5.26.1 POLICIES AND PROCEDURES PUBLICATIONS

General policies and procedures for the planning, design, operation, and maintenance of recreation facilities at Corps of Engineers civil works projects are provided in engineer manuals, regulations, and pamphlets listed below. These publications guide the development of recreational facilities to ensure they are of the highest quality and serve the health, safety, and enjoyment of the visiting public.

- EM 385-1-1, *Safety and Health Requirements Manual*, 15 September 2008
- EM 1110-1-400, *Engineering and Design Recreation Facility and Customer Services Standards*, 1 November 2004
- EM 1110-2-410, *Design of Recreation Areas and Facilities – Access and Circulation*, 31 December 1982
- EP 310-1-6, *Graphic Standards Manual* 1 September 1994
- ER 1130-2-401, *Visitor Center Program*, 15 February 1991
- ER 1130-22-400, *Management of Natural Resources and Outdoor Recreation at Civil Works Water Resources Projects*, Chapter 1, 1 June 1986
- ER 1165-2-400, *Recreation Planning, Development, and Management Policies*, 9 August 1985
- ER 1110-2-400, *Design of Recreation Sites, Areas and Facilities*, 31 May 1968

5.26.2 DESIGN APPROACH

5.26.2.1 Interdisciplinary Approach

The design of all facilities will be a fully coordinated team effort among planning, design, construction, operation, and non-federal elements. This interaction will begin with initial planning concepts and continue throughout the construction and operational phases of the project. Items such as roads, trails, parking areas, launching ramps, campsites, beach developments, and similar facilities should be field-staked, evaluated, and field-adjusted by the design team during the developmental phase. The design team will periodically visit the sites or areas during construction to determine whether field conditions are as anticipated, as well as consult with construction personnel in interpreting the plans and specifications.

Site visits will be used to observe and correct any problems not apparent or fully evaluated in the design. A team approach should be used for all aspects of federal projects and for the review and approval of plans scheduled for development by non-federal entities. The evaluation process is not finished when construction is completed. The team should observe facilities during project operations to correct inconsistencies between the design and usage, thus gaining experience for future designs.

5.26.2.2 Future Development in Existing Areas

In cases where the modification or renovation of existing facilities is required, special design attention must be given to the following listed below.

- Improving health, safety, and security features for the visitor.
- Resource carrying capacity.
- Reducing operation and maintenance costs.

In existing areas, capital costs already invested should not be considered as the primary governing factor for determining types of usage that may be contemplated for an area in the future. Changes may be made when necessary and justified.

5.26.2.3 Barrier-Free Facility Design

All facility designs will provide universal access for visitors where required by federal law or regulation. Standards are to be applied during the design, construction, and alteration of buildings and facilities.

5.26.2.4 Environmental Protection and Enhancement

Designs minimize the impact of development on the natural and aesthetic qualities of the site. This helps to avoid delays in obtaining certain permits prior to the construction phase. The design team will closely monitor construction and operational activities to ensure compliance with prescribed environmental protection requirements.

5.26.2.5 Carrying Capacity

A quality recreation area is dependent on design and construction that is fully compatible with the physical attributes, resources, and social carrying capacity of the site. Site design will not exceed the carrying capacity of the resource.

5.26.2.6 Access and Circulation

Access and circulation roads into recreation areas play a major role in influencing the total recreation experience. Design and location of roads, parking areas, boat ramps, walks, stairways, and trails will be accomplished in accordance with the philosophy envisioned for public use and participation in recreation activities. Criteria, data, and basic design considerations for access and circulation in recreation areas is subject to EM 1110-2-410, *Design of Recreation Areas and Facilities – Access and Circulation*.

5.26.2.7 Health, Safety, and Security

The health, safety, and security of the visiting public at recreation areas are designed into facilities in the planning stages and are continued throughout the design,

construction, and operation stages. The ERs and EMs in the 385 series establish safety program requirements for all Corps activities. Pertinent provisions of these publications will be applied. All facilities and equipment will comply with applicable Occupational Safety and Health Administration standards, National Fire Protection Association standards, and Consumer Product Safety Commission standards and guides. Corps standards established in EM 1110-1-400, *Recreation Planning and Design Criteria*, applies to facility design in out-granted areas.

5.26.3 STRUCTURES

The basic objective in the planning, design, construction, and maintenance of comfort stations, shelters, and other buildings in recreation areas are to provide adequate facilities for the use and support of visitors. Structures will be identifiable, convenient, and economical to construct and maintain. Structures will be attractive, but should not distract from the natural character of the area.

5.26.4 UTILITIES

Utilities must be provided, as necessary, to support recreation facilities and the needs of users. Appropriate alignment and location is very important for aesthetics, costs, and management. Accurate visitation data is extremely important in the design of all utility systems. Designs for new projects will be based on anticipated or projected visitation. Area renovation will be based on actual historical visitation figures. In the design of utility systems, emphasis will be placed on the cost of installing, operating, and maintaining these systems. Systems must meet all federal, state, and local criteria and standards for health and safety. Generally, all utility lines should be placed underground unless cost or other special conditions make such installation prohibitive.

5.26.5 LANDSCAPING

Areas selected for recreation development may possess outstanding natural features (i.e., earth, rock, water, or plant materials). It is essential for the design team to ensure these attractions are used to optimum advantage during site development. Physical properties of the site will be inventoried and features most conducive to the proposed development determined. Design should utilize these features to the maximum extent possible. Whenever possible, existing plant materials will be incorporated into the proposed design. In some cases, thinning of existing vegetation may be desirable (0-50-percent shade; very dense shade is undesirable for recreation sites). If additional plants are required, they will be native species indigenous to the site or ornamental species that are growth zone compatible. Species should be low maintenance varieties and hardy for the area. Watercourses or natural springs will be staked or fenced to prevent damage from construction activities.

5.26.6 SUPPORT ITEMS

The quality of camping, picnicking, or other recreational experiences is often contingent on the quality, type, and design of available support facilities. A challenge for the designer and manager is to provide aesthetically harmonious, functional facilities that are durable, resistant to vandals, and economical to install and maintain. Specific design criteria for campsites, picnic areas, launch ramps, swimming areas, fishing areas, and hunting areas are found in EM 1110-1-400, *Recreation Planning and Design Criteria*.

6 SPECIAL TOPICS/ISSUES/CONSIDERATIONS

This chapter focuses on topics unique to AFD and Corps properties along the Pend Oreille River and Lake Pend Oreille. It is presented as additional information.

6.1 LAKE LEVEL

6.1.1 RESERVOIR MANAGEMENT

The Pend Oreille River at AFD has a watershed of 24,200 square miles, which supplies a mean discharge of 25,930 cubic feet per second. Lake Pend Oreille is a natural lake that is located in the glacially scoured basin in the Purcell Trench in northern Idaho, making it one of the deepest and largest lakes in the western United States. The Clark Fork River, emptying into the northeast corner of the lake, is its single largest tributary, contributing about 85 percent of the input. The Pend Oreille River begins at the outflow of Lake Pend Oreille near Sandpoint, ID. Conditions in Lake Pend Oreille and the Pend Oreille River, such as the stage of the reservoir and timing of the inflow, are influenced not only by AFD, but also by the operation of upstream projects and basin hydrologic factors. AFD operations target the following schedule:

- Fall storage drawdown and lake stabilization period. The lake may be drafted after Labor Day, but in practice starts the third Sunday in September or September 18 (whichever is later), targeting an elevation of 2051 feet above mean sea level. This is called the minimum control elevation (MCE). During September, the target draft is to reach the MCE by mid-November. The November objective is to stabilize the lake within a 0.5-foot range of the MCE to support kokanee spawning, and to prepare for the winter flood season and draft for power in the fall and winter. Throughout December, the lake level is managed to avoid dewatering kokanee redds (gravel nests); kokanee are a key prey source for Endangered Species Act (ESA) listed bull trout. These operations also support flows for ESA listed salmonids in the lower Columbia River, particularly chum.
- Winter holding period. During the winter holding season, (from approximately January through March) the lake level is held to no lower than the MCE. Lake storage above the MCE may be used for occasional flood management or hydropower operations without resetting the MCE, but storage above elevation 2056 feet must be evacuated by April 1 for flood management.
- April through June flood season. During the spring flood season (from approximately April through June), the objective is to manage runoff for flood risk management. The project will frequently operate on "free flow" to pass as much water as possible through the project to help minimize flood elevations on Lake Pend Oreille. AFD operations during this time also support flows in the lower Columbia River for ESA listed salmon. The lake is generally held no higher than 2056 feet for flood storage but may be raised to manage floods. After the threat of spring flood risk has passed, operations begin to refill the lake to reach the summer target elevation of between 2062 and 2062.5 feet. Large floods may result in lake elevations greater than 2062.5 feet.

- Summer conservation period. During the summer, the lake elevation is held between 2062 and 2062.5 feet starting from the end of the spring runoff (June or early July depending on stream flows) until approximately mid-September. The objective is to maintain a lake level to support recreational uses.

6.1.2 SHORELINE EFFECTS

As the water level of Lake Pend Oreille fluctuates between summer elevations at 2062 feet and winter elevations at 2051 to 2056 feet above mean sea level, soils that are normally not subjected to long-duration flooding are being inundated for many weeks.

6.1.2.1 Waves – both natural and human caused

AFD has altered the hydrograph of Lake Pend Oreille, thereby affecting shoreline vegetation. By maintaining high lake levels throughout the summer, vegetation around the reservoir at points below this elevation has decreased substantially. This has resulted in relatively barren shorelines during lower winter lake elevations, increasing susceptibility of the shoreline to erosion relative to the pre-dam condition. Shoreline erosion in Lake Pend Oreille outside the deltas is caused by a combination of erosion from wind-generated waves, freeze-thaw processes at the air-water interface of the lake, groundwater-induced sliding, and boat wakes (Gatto and Doe 1987). The same processes that cause erosion on the lakeshore also cause erosion on the Pend Oreille River between Lake Pend Oreille and AFD. High flows during spring runoff events also adds to the shoreline erosion problem. Another source of shoreline erosion is from boat wakes. Although Bonner County Code⁷ Title 3-105 defines a 200 foot no-wake buffer from shorelines, many boaters are either unaware or ignore the ordinance. More recently, wakeboard boats, that create a larger wave (4.5-5 foot height) than traditional boats have become a point of concern and local controversy.

When the lake level is operated at either elevation 2051 feet or 2056 feet during the winter months, the shoreline erosion is typically concentrated at or very near this targeted elevation. Wind-wave and freeze-thaw effects occur at a fixed location along the shoreline for the duration of the operation period, maximizing scour at that location. The erosion rates vary widely and are dependent on the exposure of the shoreline to the wind-generated waves, as well as on the type of substrate along the shoreline. Some bank protection actions have been implemented by both public and private entities to address erosion issues in certain areas.

6.1.2.2 Archaeological Sites

The kind of effect by waves at any given location depends on beach slope, sediments, and fetch and reach factors. Whether an effect is considered to be an adverse effect or not depends upon whether the archaeological site is eligible to the National Register of Historic Places (NRHP) under Section 106 of the NHPA. Submerged archaeological sites close to the water surface may also be subject to loss of stratigraphic integrity through erosion by plucking and scour from wave turbulence; however, this kind of effect is less likely than that resulting from scarp cutting at the pool margin. Archaeological

⁷ In Idaho, individual counties can set local rules (Idaho Safe Boating Act, Idaho Statue 67-7031(4) Marking of Water Areas).

sites also may be affected by plowing caused by high winds driving broken ice into them, although adverse effect caused by this mechanism probably is a rare occurrence. On the east side of Lake Pend Oreille, there are rock art sites located within the zone affected by winter drafting. These rock art sites are being affected and the effects result mainly from erosion caused by the action of wave-suspended abrasive particles, rock spalling from wave-induced hydraulic pressure in joints and voids in the rock, and mechanical effects of ice expansion in substrate joints. The most common adverse effects to archaeological sites are those caused by the raising and lowering of the water column. Archaeological sites located along the bank line experience long periods of being submerged followed by long periods of being exposed. This cycle causes erosion and slumping of the bank face.

6.1.2.3 Boating and Boat Ramps

Both motor boats and sailboats are commonly used on the lake. Some boat owners store their boats in the water year-round. Both public and private boat ramps are available for launching boats in several locations both on the lake and on the river, when the lake and river are ice-free. Lake elevations affect accessibility of boat ramps, and usability of docks as many dock platforms are fixed above high pool elevation and are thus well above water when the lake is drawn down. At low-pool, many of the boat ramps are not long enough to allow safe boat launching when the water is ice-free. These combined limits most if not all boating activity to summer high-pool use.

6.2 AQUATIC WEEDS

The Pend Oreille River between Lake Pend Oreille and Albeni Falls Dam experiences aquatic vegetation problems seasonally. During the summer months, isolated beds of submerged species "top out" causing impacts to boating. In 1998, Eurasian watermilfoil (*Myriophyllum spicatum*) was identified in the river upstream of the dam. Pockets were found near Albeni Cove, Strong's Island, and along the shoreline to Priest River. Herbicidal treatments were attempted in the fall of 1999 with limited effect. In 2000, additional pockets were found near Priest River and Sandpoint; areas near Priest River were hand-pulled by divers, with additional pockets remaining. Additional investigations in the early 2000's found watermilfoil to be present throughout the reservoir and in 2006 more than 2,700 acres of Corps lands were chemically treated and Bonner County created an Aquatic Invasive Species Task Force to address the aquatic vegetation problem and recommend types and areas for treatment. The Corps is one of several agencies and organizations that monitor aquatic vegetation in the reservoir above the dam to determine the extent Eurasian milfoil has been introduced into project waters. ISDA took the lead role for aquatic treatments in 2010 and the Task Force was disbanded in 2012.

Flowering rush (*Butomus umbellatus*) is native to Eurasia, but made its way to North America by the turn of the 20th century. In recent years it has spread westward from these areas, facilitated in part by its sale as a garden plant and has had outbreaks in Flathead Lake Montana and the northeast portions of the Columbia Basin. Flowering rush can grow as an emergent plant, or submersed in water to several feet deep. It typically grows as an emergent on saturated soils or in shallow water, but can also grow as a submergent, forming persistent vegetative patches in moderately deep water. It tolerates fluctuating water levels and quickly colonizes newly exposed ground. The ability to tolerate fluctuating water levels, the capability of dispersal by bulblets and

rhizomes, and the lack of natural predators make this noxious weed a serious threat to native emergent vegetation and a risk for wide spread colonization. In 2007, flowering rush was discovered in Lake Pend Oreille at the Corps' Clark Fork Drift Yard. The initial infestation was approximately 10 acres, but as of 2014, the plant can be found throughout the reservoir, and has passed through Albeni Falls Dam and can be found in the river below.

AFD, Corps of Engineers' Engineering Research Development Center (ERDC), ISDA and Bonner County have performed a number of experiments to determine effective treatment methods for this invader. In 2010 and 2011, ERDC oversaw bare ground trials performed by the ISDA at the Clark Fork Drift Yard and performed a tank study in 2011 to determine in water treatment efficacy of a number of chemicals. Bare ground trials were repeated in 2013 as well as an in water treatment using Triclopyr and Fluridone at the Clark Fork Drift Yard. All treatments have shown marginal success. In 2015 these groups performed a research trial at the Drift Yard treating 4 acres bare ground with 3 replicate treatments of 1/3 acre each of the following: 1 acre treated with Imazapyr; 1 acre treated with a combination of Imazapyr and 2,4-D, 1 acre treated with Imazamox, and 1 acre treated with a combination of Imazamox and 2,4-D. These treatments have shown to be effective and plans are forming to go operational with bare ground treatments starting with 100 acres at the Drift Yard in 2017 if funding is available. An in water treatment using Diquat was conducted in 2016 season at Oden Bay WMA by the research group. Initial evaluation points to success and a secondary evaluation will be conducted in 2017.

6.3 HAZARD TREES

Hazard tree management within the recreation areas is an ongoing activity directed at reducing the incidence of tree failure. As the recreation sites are located within forested areas, the hazard tree program is part of the vegetation management plan for each park. Although it is anticipated that work done in accordance with the vegetation management plans will reduce the time and effort spent in tree evaluation over the long term, it will in no way obviate the need for a continual hazard tree program.

Until the fall of 1988, the hazard tree program consisted of removing those trees that were dead or had other obvious deficiencies. In the fall of 1988, a major tree removal program was conducted in the recreation areas based on information provided by the U.S. Forest Service (USFS) and the Forest Resource Section, Corps of Engineers. The following table is the number of trees of all sizes and species removed through the hazard tree program during the last 25 years in 5-year time blocks (Table 16). These numbers do not reflect incidental tree removal from some maintenance activities or some new facilities installation.

Table 16. Hazard trees removed 1991-2015

Recreation Area	1991-1995	1996-2000	2001-2005	2006-2010	2011-2015	Total
Albeni Cove	52	44	46	45	52	239
Vista	14	53	88	22	21	198

Recreation Area	1991-1995	1996-2000	2001-2005	2006-2010	2011-2015	Total
Priest River	39	54	53	88	128	362
Springy Creek	166	176	136	209	122	809
Riley Creek	302	137	156	203	109	907
Trestle Creek	No records kept			1	13	14

6.3.1 ANNUAL TREE SURVEY

Tree analysis is conducted at least once a year. Each individual tree is surveyed for evidence of root rot, butt disease, stem decay, insect infestation, physical damage, etc., that may compromise the stability of the tree. If any indicators are found, a determination is made as to the extent and the probability that the tree would hit a target in the event of failure (risk rating), and the extent of damage expected based on the size of the tree. If it is determined that the tree merits removal based on the defects and potential for damage, the tree is marked, and a record of the tree and its defect(s) is made.

The probability of a defective tree hitting a target is the primary factor in determining whether the tree needs to be removed. In several sites within the recreation areas, defective trees are left standing to provide for wildlife values and aesthetics. In other words, the fact that a tree has a defect does not mean that it merits immediate removal. The exception to this is in the case of insect attacks. Heavy attacks that were obviously successful indicate a need for tree removal to reduce the impact of insects on neighboring trees. In addition, heavy infestation by certain insects will eventually kill the target tree.

6.3.2 REMOVAL OF HAZARD TREES

Prior to the recreation areas (parks) spring reopening for drive-in public use, hazard trees marked for removal are felled by a licensed contractor. Depending on Timber the number of trees marked for removal, as well as the need for general thinning for overall forest health, tree removal may be achieved through a timber sale or a contract-for-services. Felled trees, or parts of trees, may be used within the recreation area to be utilized as habitat enhancement, traffic barriers (vehicular or foot), or left for firewood. Insect infested trees are removed from site to help prevent further spread of the infestation, thus helping to secure forest health.

6.4 CULTURAL RESOURCES COOPERATING GROUP

The Cultural resources cooperating group (Cooperating Group) is mandated by the Systemwide PA for the FCPRS cultural resources program. The cooperating group is comprised of technical staff from the Corps, Bonneville Power Administration (BPA), the Forest Service (USFS), the Idaho SHPO, the Coeur d'Alene Tribe, the Confederated Salish and Kootenai Tribe of the Flathead Indian Reservation (CSKT), the Kalispel Tribe of Indians and the Kootenai Tribe of Idaho. The group meets quarterly to discuss cultural resource.

6.5 WATCHABLE WILDLIFE

In response to the increasing interest in wildlife viewing, the AFD participates in the Idaho Watchable Wildlife Program (<https://idfg.idaho.gov/conservation/watchable->

[wildlife-program](#)). The purposes of the program are to 1) provide opportunities for people to participate in watching wildlife; 2) promote learning about wildlife and its habitat needs; 3) enhance active support of wildlife resource conservation; 4) enhance Federal and State wildlife management programs; and 5) help protect wildlife habitat. The project currently has four areas that are signed as watchable wildlife areas and in which people are encouraged to visit. The areas are listed in the Idaho Wildlife Viewing Guide, which is available through various outlets to the public.

In addition to the Watchable Wildlife Program, many Corps sites around the lake and river are on the Idaho Birding Trail (<http://fishandgame.idaho.gov/ifwis/ibt/pub.aspx?id=north>). In addition and a product of a cooperative study between the Corps and Boise State University in 2015, most Corps sites on the lake and river have been added as “eBird” hotspots (Table 17). The eBird program (www.ebird.org) is a real time, online checklist program started in 2002 by Cornell University Ornithology Lab and the National Audubon Society. eBird is open to the public for both data entry (birding observations) and research. Quality control of data entry is maintained with automated data quality filters developed by regional bird expert’s review all submissions before final entry into the database. Local experts review unusual records that are flagged by the filters and they contact the submitter for clarification or more information.

Table 17. eBird Hotspot on AFD properties

Birding Hotspot	eBird site
Albeni Falls Dam Overlook	http://ebird.org/ebird/hotspot/L2340640
Albeni Cove Campground	http://ebird.org/ebird/hotspot/L1179538
Clark Fork Delta –Driftwood Yard	http://ebird.org/ebird/hotspot/L1757482
Clark Fork Delta – Johnson Creek Access	http://ebird.org/ebird/hotspot/L2262890
Hoodoo Creek WMA	http://ebird.org/ebird/hotspot/L3049986
Hornby Creek WMA	http://ebird.org/ebird/hotspot/L3050043
Lake Pend Oreille – Hawkins Point (in Pack River WMA)	http://ebird.org/ebird/hotspot/L803385
Morton Slough WMA – Access Area	http://ebird.org/ebird/hotspot/L3049990
Morton Slough WMA – Game Management Area	http://ebird.org/ebird/hotspot/L3050030
Pack River North Overlook	http://ebird.org/ebird/hotspot/L3050424
Pack River South Overlook	http://ebird.org/ebird/hotspot/L3050425
Pend Oreille WMA – Pack River Delta	http://ebird.org/ebird/hotspot/L2259202
Ponder Point	http://ebird.org/ebird/hotspot/L3050046
Priest River Recreation Area and WMA	http://ebird.org/ebird/hotspot/L3049971
Riley Creek Recreation Area	http://ebird.org/ebird/hotspot/L3049985
Springy Point Recreation	http://ebird.org/ebird/hotspot/L3050045

The *iNaturalist* project (<https://www.inaturalist.org>) is an international online community to record wildlife sightings. Observers can use the website or smartphone app to upload photos of plants, animals, and insects with map locations to share with others. Users can then comment to discuss different sightings and crowdsource identifications. Features like “bioblitzs”, a communal citizen-science effort to record as many species within a designated location and time period as possible, and a teacher’s guide for using the program with students encourage participation by new users. Findings are shared with scientific data repositories like the Global Biodiversity Information Facility (<http://www.gbif.org/>), which is an open access data source that makes biodiversity data open and universally available. In the area around Albeni Falls Dam, Pend Oreille River, and Lake Pend Oreille, *iNaturalist* has catalogued 799 observations of 311 species from 111 observers (as of August 2017).

6.6 SEAPLANE OPERATIONS

Seaplane takeoff and landing maneuvers are allowed no earlier than 30 minutes before sunrise and no later than 30 minutes after sunset. Takeoff and landing maneuvers are prohibited within 500 feet of any bridge, causeway, overhead power line, dock, dam, or similar structure including 500 feet from the shore lines at Riley Creek, Priest River, Albeni Cove, Springy Point, and Trestle Creek. In an emergency situation, pilots may land inside the 500 foot buffer. Seaplanes are prohibited from mooring to any public courtesy boat dock.

Following are general policies for all Seattle District Lakes:

- Pilots are responsible for knowing the rules and regulations pertaining to aircraft as set forth in the Title 36 CFR 327.4 and CFR 328 U.S. Army Corps of Engineers Title 36, Chapter III, Section 327.4 and Title 36 Code of Federal Regulations, Part 328 dated 15 November 1977.
- Seaplane takeoff and landing maneuvers are allowed no earlier than 30 minutes before sunrise and no later than 30 minutes after sunset.
- Where not specifically restricted or prohibited, operating recreational seaplane are allowed seven days a week.
- Commercial seaplane operations are prohibited unless authorized by District Engineer in writing.
- No landings or take offs are permitted in no-wake areas.
- On the water all seaplanes must be in conformance with U.S. Coast Guard boating safety requirements (Coast Guard Pamphlet CG-290; 46 CFR parts 25, 30; and 33 CFR part 175).
- Operation of seaplanes is limited to recreational purposes only.
- The operator must remain in the vicinity of the seaplane and be reasonably available to relocate the seaplane if necessary. Planes left unattended longer than 24 hours will be presumed to have been abandoned and may be impounded.
- Seaplane landings and take offs on Lake Pend Oreille, Rufus Woods Lake or Lake Koocanusa are at the risk of the plane’s owner, operator, and passenger(s). These

lakes are operated as flood control/hydropower reservoirs with fluctuating pool elevations. Pilots are encouraged to contact Lake Project office(s) prior to flying for current lake elevations, cross winds and hazards including drift and storm debris.

- There are no mooring facilities for seaplanes. Pilots may moor their personal aircraft on shorelines open to the general public. Tying off to trees is prohibited. When approaching shorelines to moor, the taxi speed is restricted to 5mph.
- Prior to using any designated public boat launching ramp, the seaplane operator must have written permission from the Operations Project Manager or the District Engineer. This includes all nautical seaplanes or planes with retractable landing gear.
- Landing a seaplane within 100 feet of a vessel, water skier, swimmer, or scuba diver is strictly prohibited.

Take-off and Landing Restrictions for Lake Pend Oreille and the Pend Oreille River

- Within 500 feet of all terrestrial and floating structures, i.e., ports, buildings, bridges, towers, utility lines, substations, buoys and docks.
- Bonner County Ordinance 3-601 restricts that area of the Pend Oreille River extending from Albeni Falls Dam downriver to a distance of one thousand feet (1000 feet) and that area of the Pend Oreille River extending from Albeni Falls Dam upriver to a line fifty feet (50 feet) upriver of the Burlington Northern-Santa Fe railroad Bridge (bridge number 249).
- Planes must remain 500 feet from shorelines bordering recreation areas when landing.
- Landing a seaplane within 100 feet of a vessel, water skier, swimmer, or scuba diver is prohibited.

The complete policy with maps can be found in Appendix C.

6.7 BEST MANAGEMENT PRACTICES AND CONSERVATION MEASURES

To minimize environmental impacts during maintenance and construction activities, Best Management Practices and Conservation Measures will be implemented. These can be found in associated Environmental Assessment for the Master Plan in Section 4.

7 AGENCY AND PUBLIC COORDINATION

Bonner County Waterways Committee meeting – February 16, 2017. Scoping for the Master Plan was presented at the monthly Bonner County Waterways Committee (sub-committee of the Bonner County Board of Supervisors).

Master Plan Scoping – April 5 through May 5, 2017. The public announcement for project scoping was provided to local papers and sent out via email on April 5, 2017. The Newport Miner, Newport, Idaho, ran an article on April 12, 2017. One comment letter was received from Idaho Department of Fish and Game. All of the scoping documents, letters received with Corps responses can be found in Appendix D.

AFD Operations Public Meeting – August 7, 2017. The Master Plan was included as a topic of discussion at semi-annual public meeting held in Priest River, Idaho.

Pend Oreille Basin Commission Meeting – August 25, 2017. The Master Plan was included as part of the itinerary within the Albeni Falls Operation Update time block. Approximately 75 people were in the audience. No questions were asked specific to the Master Plan.

8 SUMMARY OF RECOMMENDATIONS

Development of the Albeni Falls Master Plan allows for enhancement of public recreational opportunities and improvement in the environmental quality for the present and future longevity of the project. It required continued involvement of the general public and recreational user groups, as well as federal, state, and local agencies. This input will aid in the efficient, effective, and timely implementation of resource use objectives as funding becomes available. It required the appraisal of natural and cultural resources around the reservoir and the examination of environmental considerations. This Plan will guide the use, development, and management of Albeni Falls Reservoir in a manner that optimizes public benefits within resource potentials and the authorized function of the project while remaining consistent with Corps of Engineers' policies, regulations, and environmental operating principals. The plan is stewardship-driven, seeking to balance recreational development and use with protection and conservation of natural and cultural resources.

8.1 LAND ALLOCATION AND CLASSIFICATION

Land classifications for most of the individual Corps properties have not changed since the 1981 Master Plan. However, proposed construction or upgrades in four locations did not materialize over the subsequent 36 years, and therefore it is recommended that land classifications are changed for Strong's Island, as well as portions of Priest River WMA, Clark Fork WMA, and Oden Bay WMA (Table 18). The changes serve to align the land classification with past and current uses. The proposed MRM classification allows for the designation of a predominate use with the understanding that other compatible uses may also occur (e.g. primitive camping or a trail in an area designated as Wildlife Management).

Table 18. Proposed Land Classification Changes

Site	1981 Master Plan	2017 Master Plan
Strong's Island	MRM – Low Density Recreation	MRM – WMA
Priest River WMA	MRM – Low Density Recreation (30 acres)	MRM – WMA
Clark Fork WMA	1,300.39 acres – Operations (Driftyard and other areas)	1,241 acres MRM – WMA / general (acres not specifically in the Driftyard)
Oden Bay	39 acres – low density recreation (campground) 22 acres – low density recreation (wildlife park) 13 acres WMA	all MRM – WMA

8.2 BOUNDARY SURVEYS AND MONUMENTATION

Boundary surveys and marking of federal property (signs and/or fencing) need to be completed. This is an ongoing effort as funding becomes available. It will aid managers

and inform visitors where specific activities are acceptable and aid in prevention of encroachments and trespasses.

8.3 CULTURAL RESOURCES

Cultural resources are abundant along the shoreline of the Pend Oreille River and Lake. A Historic Property Management Plan (HPMP) was developed for AFD under the auspices of the FCRPS and was a product required under the Systemwide PA. The HPMP provides guidance for the management of cultural resources at AFD. This plan is currently and will continue to be implemented at AFD. The HPMP includes the following information:

- Information about all cultural resources types at AFD
- Information on the nature and sources that are affecting cultural resources
- Information on Public outreach
- Information on actions needed to identify, evaluate and manage historic properties.

In addition, to the HPMP the following activities are on-going:

- Quarterly meetings with the AFD cultural resources cooperating group
- On-going consultation with the Idaho SHPO and Tribes
- Survey of lands that have not been previously surveyed
- Determination of eligibility on unevaluated archaeological sites
- Public Outreach
- Maintaining a GIS data layer for cultural resources

The following activities should be implemented:

- Cultural Resources Training for new staff at AFD whose job may require them to work near or around cultural resources (Natural Resources Staff, Recreation Staff, and Maintenance Staff).
- Continue the HPMP activities and partnerships as described above.

8.4 PARTNERSHIPS AND VOLUNTEERS

Build partnerships and opportunities for volunteers: Partnerships and volunteers are one way for the Corps to keep a high standard of service along with expanding programs within its authorized missions. In today's challenging fiscal environment, it is imperative for the Corps to work with local, state, and other federal agencies, special interest groups, and individuals towards common goals. These goals can range from combating invasive species, growing community events, to watershed based efforts (i.e. water quality efforts). These partnerships and volunteering efforts are a win-win situation for all parties involved and by pooling together knowledge and resources, all parties involved can do more with less. Highlights of recent efforts include:

- USACE Pacific Northwest Division Winners of Excellence in Partnership Awards:
 - 2014 – Idaho State Parks – Life jacket loaner board
 - 2015 – IDFG – Island building project at the Clark Fork River Delta
 - 2016 – ISDA – Boat inspection station and aquatic weed control

- Partnership with NRCS for the Pend Oreille Water Festival (1995 – present)

8.5 LANDS ACTIVELY MANAGED BY IDFG

Over 4,046 acres of wetlands and riparian habitat are licensed to IDFG for management and comprises portions of their Pend Oreille WMA. The Corps will continue to work cooperatively with IDFG to manage these lands for the benefit of fish and wildlife.

Within this frame the following are recommended:

- Continue to monitor eroding banks, and stabilize as determined necessary. Stabilization projects should utilize the best available science and be appropriately balanced taking in consideration the multiple natural resource goals.
- Remove encroachments and/or trespasses repairing damages that have occurred to habitat.
- Continue to provide wildlife-related recreational access, particularly for public hunting, fishing, and wildlife observation.
- Provide habitat for migrating and wintering waterfowl.

8.6 LANDS ACTIVELY MANAGED BY CORPS

Although major work is not proposed in the future, maintaining existing facilities, improving some existing facilities, and protecting natural areas and natural resources have a number of small-scale actions that would be proposed future development under the updated Master Plan. Future improvements could include, but are not limited to the following:

- Repair and maintenance of buildings
 - Reroofing
 - Repainting
 - Electrical replacement and/or upgrades
 - Repair/replacement/upgrades of plumbing
- Repaving or improving road surfaces
- Recreation Area Improvements
 - Replace portable Park Offices with permanent structures
 - ADA compliant restrooms and/or shower facilities
 - Electrical service upgrades
 - Vegetation plantings
 - Shoreline stabilization projects
 - Install new paved trails and walkways
 - Changing fence types on Park boundaries
 - Small (less than 300 linear feet) shoreline stabilization projects
 - Install playground equipment
 - Improve or install lawn sprinkler systems
 - Lighting along trails
 - Install/replace/upgrade picnic tables and table pads
 - Install/replace/maintain docks, boat ramps, tie downs, fishing piers, and pilings
 - Installation of one-way traffic control spike-barrier gates at recreation area entrances
 - Riley Creek septic system

- Install potable water at Trestle Creek

8.7 CONCLUSION

It is recommended that Corps of Engineers management, both at Albeni Falls and at the district headquarters; continue coordination with stakeholders after the finalization of this master plan. Meetings offer information exchange and present challenges and needs. Corps staff and attendees should work together to identify issues, prioritize them, and seek ways to resolve.

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10 APPENDICES

- A. List of Design Memorandum, National Environmental Policy Act Documents, and Studies
- B. Wildlife and Plant Information Lists
- C. Seaplane Operations
- D. Public Scoping for Master Plan

Appendix A

LISTS OF PRIOR DESIGN MEMORANDUM, NATIONAL
ENVIRONMENTAL POLICY ACT DOCUMENTS, AND STUDIES

DESIGN MEMORANDUMS

Following is a list of previously issued Design Memorandums for Albeni Falls Dam and Reservoir.

DESIGN MEMO #	SUBJECT		DATE ISSUED
1	Housing Facilities		Aug 1950
2	Powerhouse Cost Study		Nov 1950
3	Turbine & Governor Design		Nov 1950
4	Model Gate Test and Gate Revisions		Dec 1950
5	Concrete Aggregate Investigation		Jan 1951
6	Third Avenue Fill for Mosquito Control, Sandpoint, Idaho		Jul 1951
7	Protection of County Roads, Bonner County, Idaho		Dec 1951
8	Shore protection – Sandpoint, Idaho		Jan 1952
9	Screens for Powerhouse Intake Gate Wells		Feb 1953
10	Readjustment of City of Sandpoint Water Lines		Feb 1953
11	Reservoir Drift Control		Feb 1954
	Supplements to No. 11		
	1	Results of 1954 Drift Removal, Experiments and Recommendations for Future Operation	Nov 1954
	2	Results of 1955 Drift Control Operation and Recommendations for Facility Improvements	Aug 1955
	3	Revision of Drift Storage Booms at Site “C”	Aug 1955
12	Cost Allocation		Feb 1957
13	Site Development		Nov 1954
	The Master Plan, Development & Management, Albeni Falls Reservoir, Pend Oreille River, Idaho		Feb 1955
14	Effect of Albeni Falls Dam on Kokanee Fishery		Nov 1955
	Supplement 1 to No. 14	Settlement of Kootenai Fishery Problem	May 1957
15	Alleviation of Erosion Damage		Sep 1956
	Supplements to No. 15		
	1	Alleviation of Erosion Damage	Oct 1958
	2	Alleviation of Erosion Damage	Dec 1958
	3	Alleviation of Erosion Damage	Feb 1960
	4	Alleviation of Erosion Damage	Feb 1963
	5	Alleviation of Erosion Damage	Apr 1963
16	Additional Easements		May 1957
	Supplements to No. 16		
	1	Additional Easements	Oct 1960
	2	Additional Easements	Apr 1963
	3	Additional Easements	Feb 1963
17	Report on Groundwater Investigation at the Town of Clark Fork, Idaho		Oct 1957

DESIGN MEMO #	SUBJECT	DATE ISSUED
	Supplement 1 to No. 17 Report on Groundwater at the Town of Clark Fork, Idaho	Oct 1960
18	Public Access Facilities	Apr 1958
19	Relocation Bonner County Dock Road, Lakeview, Idaho	Jun 1958
20	Plan for Sedimentation Observation	Jan 1959
21	Public Access Facilities at Springy Point	Nov 1960
22	Public Access Facilities at Riley Creek	Aug 1962
23A	Preliminary Master Plan	May 1964
23B	The Master Plan for Development and Management of Reservoir Lands	Jan 1965
24	Additional Land Requirements – Public Recreation Areas	May 1964
25	Albeni Falls Project Master Plan	Jun 1981
26	(no document)	n/a
27	(no document)	n/a
28	Operation and Maintenance, Cultural Resources Management Plan: Evaluation of Resources	Apr 1994
end 1999 (this index system was no longer used)		

NEPA DOCUMENTS

Following is a list of prior NEPA documents for Albeni Falls Dam and Reservoir

EA – Environmental Assessment

EIS – Environmental Impact Statement

DATE	SUBJECT
1974	Albeni Falls Dam and Reservoir EA
1976	Clark Fork Debris Facility Rehabilitation EA
1976	Springy Point Recreation Improvements EA
1977	Bank Protection EA near Burlington Northern Railroad
1983	Albeni Falls Operation EIS
1984	Clark Fork Debris Facility Rehabilitation EA
1987	Priest River and Riley Creek Recreation Areas Retaining Wall Construction EA
1987	Clark Fork Drift Facility Rehabilitation EA
1995	Albeni Falls Dam Kokanee Operations EA
2003	Riley Creek Campground Improvements EA
2005	Pend Oreille River Shoreline Stabilization EA, Priest River Wildlife Management Area (WMA)
2005	Sandpoint Bank Stabilization EA
2006	Albeni Falls Bank Protection EA
2006	Carr, Hornby, and Priest River WMAs Shoreline Stabilization EA
2007	Milfoil Eradication Pilot Project EA

2008	Albeni Cove Recreation Area Shoreline Stabilization EA
2011	Albeni Falls Dam Flexible Winter Power Operations EA
2012	Hoodoo Creek Bank Stabilization EA
2015	Pend Oreille River Shoreline Stabilization Project EA, Priest River WMA Phase Three
2016	Clark Fork Drift Facility 10-year Maintenance EA
2016	Seaplane Operations Policy at Chief Joseph, Albeni Falls, and Libby Dams EA
2017	Riley Creek Recreation Area Shoreline Stabilization Project EA

STUDIES

DATE	SUBJECT
1979	Debris Facility Study
1979	Lake Pend Oreille Wetlands Study (Vol 1 & 2)
2001	Clark Fork Driftyard Work Pad and Breakwater #3 Project
2002	Albeni Falls Grave Protection Project
2015	Bird Surveys on Army Corps of Engineers Properties near Albeni Falls Dam, Bonner County, Idaho

Appendix B

WILDLIFE AND PLANT INFORMATION

In this appendix can be found check lists of the various wildlife species that could be found on Corps owned and managed properties on Lake Pend Oreille and the Pend Oreille River.

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Threatened, Endangered, and Species of Concern in Bonner County

Source: Idaho Department of Fish and Game listing, accessed December 2016

[https://idfg.idaho.gov/species/taxa/list?usesa\[\]=Delisted&usesa\[\]=Proposed&usesa\[\]=Candidate&usesa\[\]=Threatened&usesa\[\]=Endangered](https://idfg.idaho.gov/species/taxa/list?usesa[]=Delisted&usesa[]=Proposed&usesa[]=Candidate&usesa[]=Threatened&usesa[]=Endangered))

Definitions:

In State Ranking:

- 1 = Critically imperiled because of extreme rarity or because some factor of its biology makes it especially vulnerable to extinction (typically 5 or fewer occurrences).
- 2 = Imperiled because of rarity or because other factors demonstrably make it very vulnerable to extinction (typically 6 to 20 occurrences).
- 3 = Rare or uncommon but not imperiled (typically 21 to 100 occurrences).
- 4 = Not rare and apparently secure, but with cause for long-term concern (usually more than 100 occurrences).
- 5 = Demonstrably widespread, abundant, and secure.
- H = Historical occurrence (i.e., formerly part of the native biota; implied expectation that it might be rediscovered or possibly extinct).
- ? = Inexact Numeric Rank

State Ranks Specific to Long Distance Migrants (Bats and Birds):

- A = Accidental (occurring only once or a few times) or casual (occurring more regularly although not every year) in Idaho; a few of these species might have bred on one or more of the occasions when they were recorded.
- B = Breeding population.
- M = Only applies when migrant occurs in an irregular, transitory, and dispersed manner. Occurrences cannot be defined from year-to-year.
- N = Nonbreeding population.

SGCN – State designation of Species of Greatest Conservation Need

INPS – Idaho Native Plant Society – State Rare Species Definitions

- Priority 1 – Taxa in danger of becoming extinct or extirpated from Idaho in the foreseeable future if identifiable factors contributing to their decline continue to operate. These are taxa whose populations are present only at critically low levels or whose habitats have been degraded or depleted to a significant degree.
- Priority 2 – Taxa likely to be classified as Priority 1 within the foreseeable future in Idaho, if factors contributing to their population decline or habitat degradation or loss continue.
- Sensitive – Taxa with small populations or localized distributions within Idaho that presently do not meet the criteria for classification as Priority 1 or 2, but whose populations and habitats may be jeopardized without active management or removal of threats.

Species Tables

Table 1. Endangered, Threatened, or State Sensitive Birds

Common Name	Scientific Name	State Status	SGCN or INPS	Federal Status
Harlequin Duck	<i>Histrionicus histrionicus</i>	1B	√	
Northern Pintail	<i>Anas acuta</i>	5B, 2N	√	
Barrow's Goldeneye	<i>Bucephala islandica</i>	3B, 3N		
Lesser Scaup	<i>Aythya affinis</i>	3	√	
Clark's Grebe	<i>Aechmophorus clarkii</i>	2B		
Eared Grebe	<i>Podiceps nigricollis</i>	4B		
Horned Grebe	<i>Podiceps auritus</i>	1?		
Pied-billed Grebe	<i>Podilymbus podiceps</i>	4B, 3N		
Red-necked Grebe	<i>Podiceps grisegena</i>	2B	√	
Western Grebe	<i>Aechmophorus occidentalis</i>	2B	√	
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	2B		
Hooded Merganser	<i>Lophodytes cucullatus</i>	2B, 3N	√	
Trumpeter Swan	<i>Cygnus buccinator</i>	1B, 2N		
Common Loon	<i>Gavia immer</i>	1B, 2N	√	
Yellow-billed Loon	<i>Gavia adamsii</i>	N, A		
California Gull	<i>Larus californicus</i>	2B, 3N	√	
Ring-billed Gull	<i>Larus delawarensis</i>	2/3B, 3N		
Black Tern	<i>Chlidonias niger</i>	1B	√	
Forster's Tern	<i>Sterna forsteri</i>	1B	√	
American Avocet	<i>Recurvirostra americana</i>	5B	√	
Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>	2N		
Sora	<i>Porzana carolina</i>	5B		
Virginia Rail	<i>Rallus limicola</i>	5B		
Spotted Sandpiper	<i>Actitis macularia</i>	5B		
Great Blue Heron	<i>Ardea herodias</i>	5B, 5N		
Bald Eagle	<i>Haliaeetus leucocephalus</i>	3B, 54N	√	
Golden Eagle	<i>Aquila chrysaetos</i>			
Peregrine Falcon	<i>Falco peregrinus anatum</i>	2B	√	
Merlin	<i>Falco columbarius</i>	2B, 2N	√	
Osprey	<i>Pandion haliaetus</i>	5B		
Northern Goshawk	<i>Accipiter gentilis</i>	4		
Cooper's Hawk	<i>Accipiter cooperii</i>	4		
Rough-legged Hawk	<i>Buteo lagopus</i>	4N		
Sharp-shinned Hawk	<i>Accipiter striatus</i>	5		
Turkey Vulture	<i>Cathartes aura</i>	4B		
Barred Owl	<i>Strix varia</i>	4		
Boreal Owl	<i>Aegolius funereus</i>	2	√	
Flammulated Owl	<i>Otus flammeolus</i>	3B	√	
Great Gray Owl	<i>Strix nebulosa</i>	3		
Great Horned Owl	<i>Bubo virginianus</i>	5		
Northern Pygmy-Owl	<i>Glaucidium gnoma</i>	4		
Northern Saw-whet Owl	<i>Aegolius acadicus</i>	4		
Snowy Owl	<i>Nyctea scandiaca</i>	N, A		
Western Screech-Owl	<i>Otus kennicottii</i>	4		
Black-backed Woodpecker	<i>Picoides arcticus</i>	3		
Pileated Woodpecker	<i>Dryocopus pileatus</i>	4		
Three-toed Woodpecker	<i>Picoides dorsalis</i>	2	√	

Common Name	Scientific Name	State Status	SGCN or INPS	Federal Status
White-headed Woodpecker	<i>Picoides albolarvatus</i>	2	√	
Mountain Quail	<i>Oreortyx pictus</i>	1	√	
Black Swift	<i>Cypseloides niger</i>	1B	√	
Gray Jay	<i>Perisoreus canadensis</i>	5		
Killdeer	<i>Charadrius vociferus</i>	5B, 3N		
Belted Kingfisher	<i>Ceryle alcyon</i>	5		
Boreal Chickadee	<i>Poecile hudsonica</i>	1?		
White-winged Crossbill	<i>Loxia leucoptera</i>	1	√	
Common Raven	<i>Corvus corax</i>	5		
Swainson's Thrush	<i>Catharus ustulatus</i>	5B		

Table 2. Endangered, Threatened, or State Sensitive Fish

Common Name	Scientific Name	State Status	SGCN	Federal Status
Westslope Cutthroat Trout	<i>Oncorhynchus clarki lewisi</i>	4	√	
Bull trout	<i>Salvelinus confluentus</i>	4		Threatened
Pygmy Whitefish	<i>Prosopium coulteri</i>	5		

Table 3. Endangered, Threatened, or State Sensitive Mammals

Common Name	Scientific Name	State Status	SGCN	Federal Status
Townsend's Big-eared Bat	<i>Corynorhinus townsendii</i>	3	√	
Big Brown Bat	<i>Eptesicus fuscus</i>	4?		
California Myotis	<i>Myotis californicus</i>	2	√	
Fringed Myotis	<i>Myotis thysanodes</i>	2	√	
Hoary Bat	<i>Lasiurus cinereus</i>	4?		
Little Brown Myotis	<i>Myotis lucifugus</i>	5		
Long-eared Myotis	<i>Myotis evotis</i>	3?		
Long-legged Myotis	<i>Myotis volans</i>	3?		
Silver-haired Bat	<i>Lasionycteris noctivagans</i>	4?		
Western Small-footed Myotis	<i>Myotis ciliolabrum</i>	4?		
Yuma Myotis	<i>Myotis yumanensis</i>	3?		
Grizzly Bear	<i>Ursus arctos</i>	1		Threatened
Gray Wolf	<i>Canis Lupus</i>	3	√	Recovery
Lynx	<i>Lynx canadensis</i>	1	√	Threatened
Fisher	<i>Martes pennanti</i>	1	√	
North American Wolverine	<i>Gulo gulo luscus</i>	2	√	Candidate
Woodland Caribou	<i>Rangifer tarandus caribou</i>	1		Endangered
Red-tailed Chipmunk	<i>Neotamias ruficaudus</i>	3	√	
Yellow-pine Chipmunk	<i>Neotamias amoenus</i>	5		
American Pika	<i>Ochotona princeps</i>	5		
Northern Bog Lemming	<i>Synaptomys borealis</i>	1	√	
Northern Flying Squirrel	<i>Glaucomys sabrinus</i>	4		

Common Name	Scientific Name	State Status	SGCN	Federal Status
Golden-mantled Ground Squirrel	<i>Spermophilus lateralis</i>	5		
Red Squirrel	<i>Tamiasciurus hudsonicus</i>	5		
Merriam's Shrew	<i>Sorex merriami</i>	2	√	
Pygmy Shrew	<i>Sorex hoyi</i>	1	√	

Table 4. Endangered, Threatened, or State Sensitive Plants

Common Name	Scientific Name	State Status	INPS Priority	Federal Status
Braun's Sword-fern	<i>Polystichum braunii</i>	1	Priority 2	
Crested Shield-fern	<i>Dryopteris cristata</i>	2	Sensitive	
Deer-fern	<i>Blechnum spicant</i>	3	Sensitive	
Northern Beechfern	<i>Phegopteris connectilis</i>	2	Priority 2	
Giant Helleborine	<i>Epipactis gigantea</i>	3	Priority 2	
Clustered Lady's-slipper	<i>Cypripedium fasciculatum</i>	3	Priority 2	
Blueflag	<i>Iris versicolor</i>	2	Sensitive	
Short-style Tofieldia	<i>Triantha occidentalis</i> ssp. <i>brevistyla</i>	1	Priority 1	
Purple Meadow-rue	<i>Thalictrum dasycarpum</i>	1	Priority 1	
Least Bladdery Milkvetch	<i>Astragalus microcystis</i>	H	Priority 1	
Payson's Milkvetch	<i>Astragalus paysonii</i>	3		
Lance-leaved Moonwort	<i>Botrychium lanceolatum</i> var. <i>lanceolatum</i>	3	Sensitive	
Least Moonwort	<i>Botrychium simplex</i>	2	Priority 2	
Mingan Moonwort	<i>Botrychium minganense</i>	3	Sensitive	
Mountain Moonwort	<i>Botrychium montanum</i>	2	Priority 3	
Northern Moonwort	<i>Botrychium pinnatum</i>	2	Sensitive	
Stalked Moonwort	<i>Botrychium pedunculatum</i>	1		
Triangular-lobed Moonwort	<i>Botrychium ascendens</i>	1		
Kruhsea / small twistedstalk	<i>Streptopus streptopoides</i>	2	Sensitive	
Bulb-bearing Waterhemlock	<i>Cicuta bulbifera</i>	2	Sensitive	
Large Canadian St. John's-wort	<i>Hypericum majus</i>	3	Priority 2	
Green Keeled Cotton-grass	<i>Eriophorum viridicarinatum</i>	2	Priority 1	
Pod Grass	<i>Scheuchzeria palustris</i>	2	Priority 2	
Short-spored Jelly Lichen	<i>Collema curtisporum</i>	2		
Bristle-stalked Sedge	<i>Carex leptalea</i>	2	Sensitive	
Bristly Sedge	<i>Carex comosa</i>	1	Priority 1	
Pale Sedge	<i>Carex livida</i>	2	Sensitive	
Poor Sedge	<i>Carex magellanica</i> ssp. <i>irrigua</i>	2	Priority 2	
String-root Sedge	<i>Carex chordorrhiza</i>	2	Priority 1	
Yellow Sedge	<i>Carex flava</i>	3	Monitor	
Swamp Willow-weed	<i>Epilobium palustre</i>	3	Monitor	

Common Name	Scientific Name	State Status	INPS Priority	Federal Status
Water Clubrush	<i>Schoenoplectus subterminalis</i>	3	Sensitive	
White Beakrush	<i>Rhynchospora alba</i>	2	Priority 1	
Britton's Dry Rock Moss	<i>Grimmia brittoniae</i>	1	Priority 2	
Groundpine	<i>Lycopodium dendroideum</i>	2	Sensitive	
Meesia	<i>Meesia longiseta</i>	1	Priority 1	
Naked Rhizomnium Moss	<i>Rhizomnium nudum</i>	1	Priority 2	
Northern Bog Clubmoss	<i>Lycopodiella inundata</i>	2	Priority 2	
Peatmoss	<i>Sphagnum mendocinum</i>	1	Priority 2	
Bog-rosemary	<i>Andromeda polifolia</i>	1	Priority 1	
Bog Cranberry	<i>Vaccinium oxycoccos</i>	2	Priority 2	
Creeping Snowberry	<i>Gaultheria hispidula</i>	2	Priority 2	
Northern Starflower	<i>Trientalis europaea ssp. arctica</i>	3	Sensitive	
Rush Aster	<i>Symphyotrichum boreale</i>	2	Sensitive	
Swamp Birch	<i>Betula pumila</i>	2	Sensitive	
Bog Willow	<i>Salix pedicellaris</i>	2	Priority 2	
Hoary Willow	<i>Salix candida</i>	2	Sensitive	

Table 5. Endangered, Threatened, or State Sensitive Reptiles and Amphibians

Common Name	Scientific Name	State Status	SGCN	Federal Status
Northern Alligator Lizard	<i>Elgaria coerulea</i>	2	√	
Common Garter Snake	<i>Thamnophis sirtalis</i>	5		
Rubber Boa	<i>Charina bottae</i>	5		
Western Terrestrial Garter Snake	<i>Thamnophis elegans</i>	5		
Painted Turtle	<i>Chrysemys picta</i>	4		
Columbia Spotted Frog	<i>Rana luteiventris</i>	3 & 4		
Inland Tailed Frog	<i>Ascaphus montanus</i>	3		
Northern Leopard Frog	<i>Rana pipiens</i>	2	√	
Pacific Chorus Frog	<i>Pseudacris regilla</i>	5		
Wood Frog	<i>Rana sylvatica</i>	H	√	
Coeur d'Alene Salamander	<i>Plethodon idahoensis</i>	2	√	
Long-toed Salamander	<i>Ambystoma macrodactylum</i>	5		
Western Skink	<i>Eumeces skiltonianus</i>	5		
Western Toad	<i>Bufo boreas</i>	4		

Table 6. Endangered, Threatened, or State Sensitive Insects and Gastropods

Common Name	Scientific Name	State Status	SGCN	Federal Status
Fir Pinwheel	<i>Radiodiscus abietum</i>	2	√	
Pygmy Slug	<i>Kootenaia burkei</i>	2	√	

Common Name	Scientific Name	State Status	SGCN	Federal Status
Sheathed Slug	<i>Zacoleus idahoensis</i>	2	√	
Smoky Taildropper	<i>Prophysaon humile</i>	2	√	
Green Bug-on-a-stick	<i>Buxbaumia viridis</i>	3		
Kingston Oregonian	<i>Cryptomastix sanburni</i>	H	√	
A Stonefly	<i>Pictetiella expansa</i>	2	√	

Table 7. Endangered, Threatened, or State Sensitive Mollusks

Common Name	Scientific Name	State Status	SGCN	Federal Status
Western Pearlshell	<i>Margaritifera falcate</i>	1	√	

Common Birds

Recent surveys lead by Boise State University in conjunction with Corps have recorded over 120 species in the area (Carlisle et al 2015).

A large number of birds, some of which are permanent residents, are found in and around the lake. The area is a major stopover area for migratory waterfowl in both spring and fall. Some species of waterfowl and bald eagles overwinter on the lake because the lake does not freeze over its entirety. Numerous species of birds, including upland game and birds of prey, nest near the lakeshore and the 2015 study by Boise State University provided higher quality data on the abundance, species richness, and distribution of birds on and near Corps properties.

Table 8. Bird Checklist for the lower Clark Fork River watershed, Lake Pend Oreille, and the Pend Oreille River.

Common Name	Common Name	Common Name	
Ducks, Geese, and Swans	New World Quail	American Kestrel	
Canada Goose	California Quail	Peregrine Falcon	
Greater White-fronted Goose	Loons		
Tundra Swan	Common Loon	Rails, Gallinules, and Coots	
Trumpeter Swan	Pacific Loon	Virginia Rail	
Wood Duck	Grebes	Sora	
Gadwall	Pied-billed Grebe	American Coot	
Eurasian Wigeon	Horned Grebe		
American Wigeon	Eared Grebe	Lapwings and Plovers	
Mallard	Red-necked Grebe	Killdeer	
Cinnamon Teal	Clark's Grebe	Black-bellied Plover	
Blue-winged Teal	Western Grebe		
Northern Shoveler		Avocets and Stilts	
Northern Pintail	Pelicans and their Allies	American Avocet	
Green-winged Teal	American White Pelican	Sandpipers, Phalaropes, and Allies	
Canvasback	Double-crested Cormorant		
Redhead		Spotted Sandpiper	
Ring-necked Duck	Bitterns, Herons, and Egrets	Western Sandpiper	
Lesser Scaup	American Bittern	Baird's Sandpiper	
Greater Scaup	Great Blue Heron	Pectoral Sandpiper	
Bufflehead		Dunlin	
Common Goldeneye	Ibises and Spoonbills	Wilson's Snipe	
Ruddy Duck		Red-necked Phalarope	
Hooded Merganser	New World Vultures		
Common Merganser	Turkey Vulture	Gulls, Terns, and Skimmers	
Red-breasted Merganser	Ospreys, Kites, Eagles, Hawks, and Falcons	Bonaparte's Gull	
		Ring-billed Gull	
	Northern Harrier	Mew Gull	
Partridges, Grouse, Turkeys, and Old World Quail	Osprey	California Gull	
	Bald Eagle	Herring Gull	
Ruffed Grouse	Cooper's Hawk	Caspian Tern	
Wild Turkey	Red-tailed Hawk	Common Tern	
	Swainson's Hawk		
	Merlin		

Common Name	Common Name	Common Name
Pigeons and Doves	Common Raven	Warblers
Rock Pigeon	Larks	Orange-crowned Warbler
Mourning Dove	Horned Lark	Nashville Warbler
Eurasian Collared-dove	Swallows	Townsend's Warbler
Owls	Northern Rough-winged Swallow	Yellow Warbler
Northern Pygmy Owl	Tree Swallow	Yellow-rumped Warbler
Barred Owl	Violet-green Swallow	American Redstart
Western Screech	Bank Swallow	Northern Waterthrush
Northern Saw-whet Owl	Barn Swallow	MacGillivray's Warbler
Great Horned Owl	Cliff Swallow	Wilson's Warbler
Great Gray		Common Yellowthroat
Snowy Owl		
Goatsuckers	Titmice, Chickadees, Bushtits, and Nuthatches	Sparrows, Towhees, and Juncos
Common Nighthawk		
Swifts	Black-capped Chickadee	Spotted Towhee
Black Swift	Chestnut-backed Chickadee	Chipping Sparrow
Vaux's Swift	Mountain Chickadee	Savannah Sparrow
Hummingbirds	Red-breasted Nuthatch	Lincoln's Sparrow
Calliope Hummingbird	Brown Creeper	Song Sparrow
Anna's Hummingbird		White-crowned Sparrow
Black-chinned Hummingbird	Wrens	Dark-eyed Junco
Rufous Hummingbird	Marsh Wren	
Kingfishers	Pacific Wren	Cardinals, Tanagers, and Allies
Belted Kingfisher	House Wren	
Woodpeckers	Canyon Wren	Western Tanager
Hairy Woodpecker		Lazuli Bunting
Downy Woodpecker	Dippers	Black-headed Grosbeak
Northern Flicker	American Dipper	Snow Bunting
Pileated Woodpecker	Kinglets	
Red-naped Sapsucker	Golden-crowned Kinglet	Blackbirds
	Ruby-crowned Kinglet	Red-winged Blackbird
Tyrant Flycatchers	Thrushes	Brewer's Blackbird
Western Wood-pewee	Mountain Bluebird	Yellow-headed Blackbird
Eastern Kingbird	Townsend's Solitaire	Western Meadowlark
Cordilleran Flycatcher	Swainson's Thrush	Brown-headed Cowbird
Hammond's Flycatcher	Varied Thrush	Bullock's Oriole
Dusky Flycatcher	American Robin	Pine Grosbeak
Least Flycatcher		Red Crossbill
Willow Flycatcher	Mockingbirds and Thrashers	Old World Sparrows
	Gray Catbird	House Sparrow
Shrikes and Vireos	Starlings	Finches
Northern Shrike	European Starling	House Finch
Cassin's Vireo		American Goldfinch
Warbling Vireo	Wagtails and Pipits	Pine Siskin
Red-eyed Vireo	American Pipit	Gnatcatchers and Gnatwrens
	Waxwings	
Crows and Jays	Bohemian Waxwing	
Black-billed Magpie	Cedar Waxwing	Longspurs and Snowbuntings
Clark's Nutcracker		
Steller's Jay		

Common Plants

A list of species observed upon the Project's lands during field surveys is found in Table 8. This list is not comprehensive and does not include a full survey of rare and endangered species.

Table 9. Observed Vegetation Species on Project Lands.

Scientific Name	Common Name	Scientific Name	Common Name
<i>Abies grandis</i>	Grand Fir	<i>Lilium columbianum</i>	Tiger Lily
<i>Acer glabrum</i>	Douglas Maple	<i>Lomatium dissectum</i>	Fern-leaved lomatium
<i>Acer macrophyllum</i>	Big Leaf Maple	<i>Lomatium triternatum</i>	9 leaved lomatium
<i>Achillea millefolium</i>	Yarrow	<i>Lonicera dioica</i>	Douglas honeysuckle
<i>Aconitum columbianum</i>	Monkshood	<i>Lonicera utahensis</i>	Utah Honeysuckle
<i>Adenocaulon bicolor</i>	Pathfinder	<i>Lonicera utahensis</i>	Utah honeysuckle
<i>Agropyron sp.</i>	Wheat Grass	<i>Lupinus sericeus</i>	Lupine
<i>Agrostis sp.</i>	Bentgrass	<i>Luzula piperi</i>	Wood rush
<i>Allium sp.</i>	Onion	<i>Lysichitum americanum</i>	Skunk Cabbage
<i>Alnus sinuata</i>	Sitka Alder	<i>Myosotis sylvatica</i>	Forget Me Not
<i>Amelanchier alnifolia</i>	Serviceberry	<i>Osmorhiza chilensis</i>	Sweet Cicely
<i>Antennaria racemosa</i>	Wooley Pussy Toes	<i>Oxalis suksdorfii</i>	Wood Sorrel
<i>Aralia nudicaulis</i>	Sarsparilla	<i>Phalaris arundinaceae</i>	Reed Canary Grass
<i>Arctium lappa</i>	Burdock	<i>Philadelphus lewisii</i>	Mockorange
<i>Arnica cordifolia</i>	Heart leaved arnica	<i>Phlox caespitosa</i>	Phlox
<i>Asarum caudatum</i>	Wild Ginger	<i>Physocarpus malvaceus</i>	Mallow Ninebark
<i>Aster scopulorum</i>	Purple Aster	<i>Pinus contorta</i>	Lodgepole Pine
<i>Athyrium filix-femina</i>	Lady Fern	<i>Pinus monticola</i>	Western White Pine
<i>Balsamorhiza sagittata</i>	Arrowleaf balsamroot	<i>Pinus ponderosa</i>	Ponderosa Pine
<i>Berberis aquifolium</i>	Tall Oregon Grape	<i>Populus balsamifera</i>	Black Cottonwood
<i>Betula papyrifera</i>	Paper Birch	<i>Populus tremuloides</i>	Quaking Aspen
<i>Bromus rigidus</i>	Weedy Brome	<i>Potentilla gracilis</i>	Cinquefoil
<i>Bromus vulgaris</i>	Wide blade hairy grass	<i>Prunus emarginata</i>	Bittercherry
<i>Calamagrostis rubescens</i>	Pine Grass	<i>Prunus virginiana</i>	Choke cherry
<i>Carex aperta</i>	Columbia sedge	<i>Pseudotsuga menziesii</i>	Douglas-fir
<i>Ceanothus velutinus</i>	Greasewood		
<i>Ceanothus velutinus</i>	Shinyleaf Ceanothus	<i>Pteridium aquilinum</i>	Bracken Fern
<i>Centaurea maculosa</i>	Knapweed	<i>Ranunculus sp.</i>	Buttercup
<i>Chimaphila umbellata</i>	Pipsissewa	<i>Rhamnus alnifolia</i>	Buckthorn
<i>Clematis columbiana</i>	Columbia clamatis	<i>Rosa gymnocarpa</i>	Baldhip Rose
<i>Clintonia uniflora</i>	Queen cup beadleily	<i>Rosa woodsii</i>	Pearhip Rose
<i>Collinsia parviflora</i>	Blue-eyed Mary	<i>Rubus parviflorus</i>	Western Thimbleberry
<i>Coptis occidentalis</i>	Western goldthread	<i>Rubus ursinus</i>	Trailing blackberry
<i>Corallorhiza maculata</i>	Coralroot	<i>Salix scouleriana</i>	Scouler Willow
<i>Cornus stolonifera</i>	Red-osier Dogwood	<i>Sambucus racemosa</i>	Red Elderberry
<i>Crataegus douglasii</i>	Black Hawthorn	<i>Sedum lanceolatum</i>	Sedum
<i>Cystopteris fragilis</i>	Brittle bladder-fern	<i>Sedum roseum</i>	Sedum
<i>Dactylis glomerata</i>	Orchard Grass	<i>Smilacina racemosa</i>	False Solomon's seal
<i>Disporum hookeri</i>	Hooker fairy-bell	<i>Smilacina stellata</i>	Starry Solomon-seal
<i>Disporum trachycarpum</i>	Wartberry fairy-bell	<i>Sorbus sitchensis</i>	Sitka Mountain-ash
<i>Dodecatheon jeffreyi</i>	Jeffrey's shooting star	<i>Spiraea betulifolia</i>	White spiraea

Scientific Name	Common Name	Scientific Name	Common Name
<i>Echinochloa crusgalli</i>	Grass no ligule	<i>Spiraea douglasii</i>	Spiraea
<i>Elymus glaucus</i>	Blue Wildrye	<i>Stellaria media</i>	Chickweed
<i>Epilobium angustifolium</i>	Fireweed	<i>Streptopus amplexifolius</i>	Starflower twisted-stalk
<i>Equisetum arvense</i>	Field Horsetail	<i>Symphoricarpos albus</i>	Snowberry
<i>Equisetum hyemale</i>	Tall horsetail	<i>Tanacetum vulgare</i>	Tansey
<i>Erythronium grandiflorum</i>	Avalanche Lily	<i>Taraxacum officinale</i>	Dandelion
<i>Festuca arundinaceae</i>	Fescue	<i>Thalictrum occidentale</i>	Meadowrue
<i>Fragaria vesca</i>	Wood Strawberry	<i>Thuja plicata</i>	Western Redcedar
<i>Fragaria virginiana</i>	Strawberry	<i>Tiarella trifoliata</i>	Foam Flower
<i>Gallium triflorum</i>	Gallium	<i>Trifolium pratense</i>	Red Clover
<i>Gaultheria humifusa</i>	Western Wintergreen	<i>Trillium ovatum</i>	Trillium
<i>Geum macrophyllum</i>	Geum	<i>Tsuga heterophylla</i>	Western Hemlock
<i>Haracleum lanatum</i>	Cow Parsnip	<i>Vaccinium caespitosum</i>	Huckleberry
<i>Heuchera sp.</i>	Alumroot	<i>Vaccinium ovalifolium</i>	Oval-leaf Huckleberry
<i>Hieracium albertinum</i>	Hawkweed non hairy	<i>Vicia americana</i>	Vetch
<i>Holodiscus discolor</i>	Ocean-spray	<i>Viola adunca</i>	Purple violet
<i>Impatiens noli-tangere</i>	Impatiens	<i>Viola glabella</i>	Woodland Violet
<i>Juniperus scopulorum</i>	Rocky mountain juniper	<i>Zigadenus elegans</i>	Death Camas
<i>Larix occidentalis</i>	Western Larch	<i>Zigadenus venenosus</i>	Death Camas

Forest Habitat Types in Northern Idaho

Northern Idaho's forest vegetation presents a complex array in composition and structure. To facilitate effective management of these lands, a classification is needed to reduce the diversity to a reasonable number of units. Natural classifications, in contrast to technical classifications of specific applicability such as timber types or cover types, are based on natural relationships and have a broad application, serving a multiplicity of management needs. Natural classifications such as habitat types (Daubenmire and Daubenmire 1968) reflect ecological patterns and thus accommodate the greatest number of applications (Cooper, et al 1991). Rather than extrapolate from classifications of adjacent areas or work with data-deficient, local, informally revised classifications, a decision was made to refine the Daubenmires' classification. To this end a cooperative study was initiated in 1980 between the Northern Region USDA Forest Service and the Intermountain Research Station.

From analysis of data collected from multiple site visits the following forest communities (as described in Cooper, et al 1991) were either found to be currently present on the Project's lands, or likely to be the future climax community of other open canopy forested lands:

- Western Redcedar/Lady Fern (*Thuja plicata* / *Athyrium filix-femina*)
- Western Redcedar/Queencup Beadlily (*Thuja plicata* / *Clintonia uniflora*)
- Western Hemlock/Queencup Beadlily (*Tsuga heterophylla* / *Clintonia uniflora*)
- Grand Fir/Queencup Beadlily (*Abies grandis* / *Clintonia uniflora*)

- Grand Fir/Ninebark (*Abies grandis* / *Physocarpus malvaceus*)
- Grand Fir/Ninebark (Goldthread phase) (*Abies grandis* / *Physocarpus malvaceus*)
- Douglas Fir (*Pseudotsuga menziesii*)
- Douglas Fir/Ninebark (*Pseudotsuga menziesii* / *Physocarpus malvaceus*)
- Douglas Fir/Common Snowberry (*Pseudotsuga menziesii* / *Symphoricarpos albus*)
- Ponderosa Pine/Common Snowberry (*Pinus ponderosa* / *Symphoricarpos albus*)

Western Redcedar/Lady Fern (*Thuja plicata*/*Athyrium filix-femina*)

These sites are consistently very species rich. Lady fern (*Athyrium filix-femina*), with a coverage of generally 5 percent or more and a stature generally in excess of 3 ft (1m), is diagnostic of this habitat type. Species commonly also encountered are pathfinder (*Adenocaulon bicolor*), wild ginger (*Asarum caudatum*), queencup beadlily (*Clintonia uniflora*), goldthread (*Coptis occidentalis*), and foamflower (*Tiarella trifoliata*). This habitat type provides habitat for bird foraging and nesting (such as warblers, chickadees, thrushes, woodpeckers, owls, grouse), small mammals (such as squirrels, mice, woodrats, bats), and large mammals (such as deer, elk,) when a shrub understory is present.

Western Redcedar/Queencup Beadlily (*Thuja plicata*/*Clintonia uniflora*)

This habitat type is characterized by self-sustaining populations of western red cedar (*T. plicata*) and an understory containing queencup beadlily (*Clintonia uniflora*), goldthread (*Coptis occidentalis*), or foamflower (*Tiarella trifoliata*). Wild ginger and woodlan violet (*Viola glabella*), if present, only occur on isolated moist microsites within the stand. This habitat type provides habitat for bird nesting and foraging (such as warblers, thrushes, owls, woodpeckers) and small mammals (such as woodrats, squirrels, bats) with its many snags. When a shrub understory is present deer and elk browse on it heavily.

Western Hemlock/Queencup Beadlily (*Tsuga heterophylla*/*Clintonia uniflora*)

Seral species that may dominate early successional stages include Douglas fir, western larch (*Larix occidentalis*), western white pine (*Pinus monticola*), ponderosa pine (*Pinus ponderosa*), and lodgepole pine (*Pinus contorta*). Associated shrub and herbaceous species include Utah honeysuckle (*Lonicera utahensis*), baldhip rose (*Rosa gymnocarpa*), twinflower (*Linnaea borealis*), huckleberry (*Vaccinium sp.*), queencup beadlily, and foamflower. Western hemlock forest is one of the more widespread climax forests in northern Idaho and provides habitat for bird nesting and foraging (such as thrushes, chickadees, warblers, owls, woodpeckers,

Grand Fir/Queencup Beadlily (*Abies grandis*/*Clintonia uniflora*)

Grand fir (*Abies grandis*), in addition to being the climax dominant, is a major dominant of seral stages, even following clearcutting or severe wildfire. Undergrowth is characterized by the presence of Queencup beadlily and a variable assemblage of moist-site herbs, including starry Solomon-seal (*Smilacina stellata*), bedstraw (*Galium triflorum*), goldthread (*Coptis occidentalis*), grass (*Bromus vulgaris*), Hooker fairy-bell

(*Disporum hookeri*), and pathfinder (*Adenocaulon bicolor*). Typical shrubs are western thimbleberry (*Rubus parviflorus*), baldhip rose (*Rosa gymnocarpa*), honeysuckle (*Lonicera utahensis*), huckleberry and twinflower. Similar to the cedar forests, birds, and small mammals are the main wildlife present. Only limited understory is present to provide browse for large mammals.

Grand Fir/Ninebark (*Abies grandis*/*Physocarpus malvaceus*)

While grand fir is the dominant climax species, lodgepole pine (*Pinus contorta*), western larch (*Larix occidentalis*), white pine (*Pinus monticola*), Douglas fir (*Pseudotsuga menziesii*) and ponderosa pine (*Pinus ponderosa*) can be present in significant numbers in this habitat type. Undergrowth is dominated by a variable combination of ninebark (*Physocarpus malvaceus*), ocean spray (*Holodiscus discolor*), Rocky Mountain maple (*Acer glabrum*), snowberry (*Symphoricarpos albus*), service berry (*Amelanchier alnifolia*), and creeping Oregon grape (*Berberis repens*). Forbs include twisted stalk (*Smilacina stellata*), bedstraw (*Galium triflorum*), Piper's anemone (*Anemone piperi*), American trailplant (*Adenocaulon bicolor*), and wide-blade hairy grass (*Bromus vulgaris*). This habitat type provides habitat for birds nesting and foraging and small mammals. More deer browse is available because shrubs are often widespread in this habitat type.

Goldthread Phase. In the goldthread phase of the grand fir/ninebark habitat type, the shrub layer is much reduced and forbs are the dominant understory, primarily goldthread (*Coptis occidentalis*). This habitat type provides limited habitat for large mammals.

Douglas-fir/Ninebark (*Pseudotsuga menziesii*/*Physocarpus malvaceus*)

Ponderosa pine (*Pinus ponderosa*) is the major seral tree species in this habitat type; some sites are capable of supporting western larch (*Larix occidentalis*). The climax community is a closed forest, with canopy cover ranging from 70 percent to over 100 percent. The understory shrub layer is dominated by ninebark (*Physocarpus malvaceus*) and/or oceanspray (*Holodiscus discolor*). Other commonly found shrubs in this habitat type are serviceberry (*Amelanchier alnifolia*), mockorange (*Philadelphus lewisii*), baldhip rose (*Rosa gymnocarpa*), white spiraea (*Spiraea betulifolia*), and snowberry (*Symphoricarpos albus*). This habitat type provides bird nesting and foraging habitat (such as for warblers, thrushes, chickadees, woodpeckers, owls, grouse), small mammals, and large mammals. The mixed ponderosa pine and Douglas fir forests support high densities of herbivores (Sallabanks, et al 2001).

Douglas-fir/Common Snowberry (*Pseudotsuga menziesii*/*Symphoricarpos albus*)

Ponderosa pine (*Pinus ponderosa*) is the major seral tree species and often codominates with Douglas fir (*Pseudotsuga menziesii*) in mature stands. Shrub species, normally low in total coverage, are usually represented by snowberry (*Symphoricarpos albus*), white spiraea (*Spiraea betulifolia*), serviceberry (*Amelanchier alnifolia*), baldhip rose (*Rosa gymnocarpa*), and Oregon grape (*Berberis repens*). The herbaceous layer tends to be rather sparse, with wheat grass (*Agropyron spicatum*),

pine grass (*Calamagrostis rubescens*), Columbia sedge (*Carex geyeri*), and associated herbs. This habitat type provides excellent habitat for small mammals.

Ponderosa Pine/Common Snowberry (*Pinus ponderosa*/*Symphoricarpos albus*)

Sparse ponderosa pine and low shrubs dominate this habitat type. Snowberry (*Symphoricarpos albus*), white spiraea (*Spiraea betulifolia*), Oregon grape (*Berberis repens*), and roses (*Rosa spp.*) are typical dominants. Some sites may have black hawthorn (*Crataegus douglasii*), bitter cherry (*Prunus emarginata*), choke cherry (*P. virginiana*), serviceberry (*Amelanchier alnifolia*), and/or cascara (*Rhamnus purshiana*) as a tall shrub layer. The herbaceous undergrowth of the habitat type is usually sparse and lacking in species diversity although disturbed sites of this habitat type often have rampant populations of exotic herbs. This habitat type provides habitat for small mammals, squirrels, birds, woodpeckers and excellent browse for deer.

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Appendix C

SEAPLANE OPERATIONS

Appendix C

2016 Seaplane Operations

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers, Seattle District
4735 East Marginal Way South
Seattle, Washington, 98134-2385

CENWS-OD-TS

PROJECT OPERATIONS

Seaplane Operations at Civil Works Water Resource Development Projects

1. Reference: Title 36 Code of Federal Regulations (CFR) Part 238, Regulation of Seaplane Operations at Civil Works Water Resource Development Projects Administered by the Chief of Engineers (42 FR 220, 15 November 1977).
2. Purpose: This policy is in response to an increase in public interest expressed by private seaplane operators who desire to land their personal aircraft on waters held in fee inside the boundaries that make up the Seattle District. Restrictions and guidelines for landings and takeoffs will apply to Lake Pend Oreille (Albeni Falls Dam) in Idaho, Lake Koocanusa (Libby Dam) in Montana, and Rufus Woods Lake (Chief Joseph Dam) in central Washington. Landings and takeoffs are prohibited at Mud Mountain Dam (White River), Lake Washington Ship Canal, and on the (Eagle River Gorge) Howard Hansen Dam.
3. Scope: This new policy is for the purpose of defining the rules which in conjunction with Title 36, Chapter III Section 36 CFR 327.4 and 36 CFR 328 govern the operation of seaplanes upon waters classified or zoned as 'Fee Simple' by the Federal Government within Seattle District. All appropriate State and Federal aviation laws apply to aircraft operations upon or over project lands and waters.
4. Definitions: A seaplane is an aircraft registered with the Federal Aviation Administration and equipped with pontoons for the purpose of landing on or taking off from water. After landing on the water, seaplanes are considered marine vessels and must adhere to the rules and regulations described under the provisions of Coast Guard Rule 18 (d) and Federal Aviation Regulation 91.115. On the water, all seaplanes and their operators shall keep well clear of all vessels and avoid impeding their navigation.
5. Authority by individual project:
 - a. Albeni Falls Dam and reservoir, authorized by Public Law 81-516 (81st Cong, 2nd Sess.) and the Flood Control Act of 1950.

Seaplane takeoff and landing maneuvers are allowed no earlier than 30 minutes before sunrise and no later than 30 minutes after sunset.

Takeoffs and landings are prohibited within 500 feet of any bridge, causeway, overhead power line, dock, dam, or similar structure including 500 feet from the shorelines at Riley Creek, Priest River, Albeni Cove, Springy Point, and Trestle Creek recreation areas. In an emergency situation, pilots may land inside the 500 foot buffer. Sea planes are prohibited from mooring to any public courtesy boat dock.

b. Chief Joseph Dam and reservoir, authorized by Public Law 82-469 (82nd Cong, 2nd Sess), July 9, 1952. Seaplane takeoff and landing maneuvers are allowed no earlier than 30 minutes before sunrise and no later than 30 minutes after sunset on Rufus Woods Lake. Takeoff and landing maneuvers are prohibited ½ mile from Chief Joseph Dam and the Powerhouse. Pilots are to remain 500 feet from all terrestrial and floating structures, trash booms, buildings, ports, bridges, towers, and utility lines. Pilots may land and take off 300 feet from the shores that make up Rufus Woods Lake.

c. Libby Dam and reservoir, authorized by Public Law 81-516 (81st Cong, 2nd Sess) and the Flood Control Act of 1950. Seaplane takeoff and landing maneuvers are allowed no earlier than 30 minutes before sunrise and no later than 30 minutes after sunset. Takeoff and landing maneuvers are prohibited within 500 feet of any bridge, causeway, overhead power line, dock, dam, or similar structure. Pilots may land and take off 300 feet from the shores of Lake Koocanusa.

d. Lake Washington Ship Canal, authorized by House Document (HD) 953, 60th Congress, 1st Session of 1908, authorized on June 25, 1910 to construct a double lock dam and accessory works at the entrance to Salmon Bay and to dredge a channel from the locks to deepwater in the Puget Sound and a channel from the locks to Lake Washington. The Seattle Police Department and the City of Seattle have placed a restriction speed on all vessels operating on Salmon Bar or around the Lake Washington Ship Canal of 7 knots or 8.055 miles per hour. The Seattle Municipal Code SMC 16.20.130 discusses the 7 knot restriction code placed on the referenced waters. Seaplane takeoff is not possible based on this regulation.

e. Howard Hanson Dam or Eagle Gorge Reservoir was authorized under Public Law 81-516, Rivers and Harbors Act of 1950. Additional water storage was authorized in Section 101(b)(15) of the Water Resources Development Act of 1999 (Public Law 106-53). The city of Tacoma is the purveyor of municipal drinking water from the Green River. Howard Hanson Dam and all waters that make up the reservoir are closed to the general public. Pursuant to WAC 246-290-690 access to the reservoir by seaplane is prohibited.

Any person accessing the controlled areas of the Green River Watershed for recreational purposes by land, water, or air will be issued a Watershed Trespass Incident Report and will be subject to being issued a King County Trespass Citation. (See Green River Watershed Management Plan, Volume II, 2008).

f. Mud Mountain Dam and reservoir was authorized by the Flood Control Act of June 22, 1936, 74th Congress, 2nd session. Under the provisions of the Flood Control Act of 1938, operation and maintenance of the completed project is responsibility of the Corps of Engineers. Mud Mountain Dam is operated solely for flood control as the main unit of the more comprehensive Puyallup River. Reference the Mud Mountain Dam Operational Management Plan dated 1964, Section 2.04 (The Mud Mountain Dam project is operated without a conservation pool).

The reservoir contains water during flood periods only and is emptied immediately when the flood has receded. During the fall, winter, and spring, the reservoir elevation fluctuates widely and often at a rapid rate making it unsafe for public use).

6. District prohibitions and restrictions:

a. Pilots are responsible for knowing the rules and regulations pertaining to aircraft as set forth in the Title 36 CFR 327.4 and CFR 328, U.S. Army Corps of Engineers Title 36, Chapter III, Section 327.4, and Title 36 Code of Federal Regulations, Part 328 dated 15 November 1977. Copies are available from any Corps of Engineers lake office or by writing the Public Affairs Office at 4735 East Marginal Way South, Seattle, Washington 98134-2385.

b. Seaplane takeoff and landing maneuvers are allowed no earlier than 30 minutes before sunrise and no later than 30 minutes after sunset.

c. Where not specifically restricted or prohibited, operating recreational seaplanes are allowed seven days a week.

d. Commercial seaplane operations are prohibited unless authorized by the District Engineer in writing.

e. No landings or take offs are permitted inside no-wake areas.

f. On the water, all seaplanes must be in conformance with U.S. Coast Guard boating safety requirements (Coast Guard Pamphlet CG-290; 46 CFR parts 25,30; and 33 CFR part 175).

g. Operation of seaplanes is limited to recreational purposes only.

h. The operator must remain in the vicinity of the seaplane and be reasonably available to relocate the seaplane if necessary. Planes left unattended longer than 24 hours will be presumed to have been abandoned and may be impounded.

i. Seaplane landings and take offs on Lake Pend Oreille, Rufus Woods Lake, or Lake Koocanusa are performed at the risk of the planes owner, operator, and passenger(s). These lakes are operated as flood control/hydropower reservoirs with fluctuating pool elevations. Pilots are encouraged to contact the lake project office(s) prior to flying for current lake elevations. Addresses and phone numbers for each lake are provided in the documents enclosed.

j. There are no mooring facilities for seaplanes. Pilots may moor their personal aircraft on shorelines open to the general public. Tying off to trees is prohibited. When approaching shorelines to moor, the taxi speed is restricted to 5 mph.

k. Prior to using any designated public boat launching ramp, the seaplane operator must have written permission from the Operations Project Manager or the District Engineer. This includes all nautical seaplanes or planes with retractable landing gear.

7. Take-off and landing restrictions:

a. Within 500 feet of all terrestrial and floating structures (e.g., ports, buildings, bridges, towers, utility lines, substations, buoys, and docks).

b. Within ½ mile of Chief Joseph Dam on Rufus Woods Lake.

c. Within 500 feet of Libby Dam on Lake Koocanusa.

d. Bonner County Ordinance 3-601 restricts that area of the Pend Oreille River extending from Albeni Falls Dam downriver to a distance of one thousand feet (1000') and that area of the Pend Oreille River extending from Albeni Falls Dam upriver to a line fifty feet (50') upriver of the Burlington Northern-Santa Fe Railroad Bridge (bridge number 249).

c. On Rufus Woods Lake in Washington and Lake Koocanusa in Montana, pilots must remain at least 300 feet from all Corps of Engineer recreational areas including marinas, boat launches, and swim beaches.

d. On Lake Pend Oreille in Idaho planes, must remain 500 feet from shorelines bordering recreation areas when landing.

e. Landing a seaplane within 100 feet of a vessel, water skier, swimmer, or scuba diver is prohibited at Lake Pend Oreille, Rufus Woods Lake, and Lake Koocanusa.

f. Seaplanes are prohibited from landing at Mud Mountain Dam (White River), Howard Hanson Dam (Eagle Gorge Reservoir), and Lake Washington Ship Canal.

Attachments :

Appendix A Albeni Falls Dam
Appendix B Chief Joseph Dam
Appendix C Libby Dam

APPENDIX A

Albeni Falls Dam (Lake Pend Oreille)



Albeni Falls Dam
2376 East Highway 2
Oldtown, ID 83822
Phone: 208-437-3133

APPENDIX B

Chief Joseph Dam (Rufus Woods Lake)



Chief Joseph Dam
PO Box 1120
Bridgeport, WA 98813
Phone: 509-686-2225

APPENDIX C

Libby Dam (Lake Koocanusa)



Libby Dam Project Office
17877 Mountain Highway 37
Libby, MT 59923
Phone: 406-293-7751

CENWS-OD-TS

MEMORANDUM THRU Operations Division (CENWS-OD)

FOR Commander, Seattle District

SUBJECT: Regulation of Seaplane Operations at Civil Works Water Resource Development Projects

1. Request approval to implement Seaplane Operations at Civil Works Water Resource Development Projects policy (enclosed). This policy outlines policy for take-offs and landings near Seattle District projects.
2. The point of contact for this policy is Mr. John Derby, Natural Resource Specialist, Natural Resource Management Section, (206) 764-3754 or john.e.derby@usace.army.mil.

3 Encls

1. Figure, Albeni Falls Dam
2. Figure, Chief Joseph Dam
3. Figure, Libby Dam
4. Seaplane Operations Policy

JAMES R. JACOBSON
Chief, Natural Resources Management
Section

Approved/Disapproved

JOHN G. BUCK
COL, EN
Commanding

DISTRIBUTION:

ALBENI FALLS DAM (CENWS-OD-AF) (w/encls)
CHIEF JOSEPH DAM (CENWS-OD-CJ) (w/encls)
LIBBY DAM (CENWS-OD-LD) (w/encls)
LAKE WASHINGTON SHIP CANAL (CENWS-OD-LW) (w/encls)
HOWARD HANSON DAM (CENWS-OD-HH) (w/encls)
MUD MOUNTAIN DAM (CENWS-OD-MM) (w/encls)

Appendix D

PUBLIC SCOPING

Appendix D – Public Scoping for Master Plan

Bonner County Waterways Committee meeting notes – February 17, 2017

News Release from Corps Public Affairs Office – April 5, 2017

E-mail to Stakeholders – April 5, 2017

Article in Newport Miner – April 12, 2017

Letters received and Corps response:

Idaho Department of Fish and Game – May 5, 2017

Waterways Advisory Committee Meeting ~~Minutes~~ Notes
Thursday, February 16, 2017 at 9:00 am
Commissioners Meeting Room
1500 Hwy 2, Suite 338
Sandpoint, ID 83864

Members Present: Terry Jensen & Jim Thorpe (NO QUORUM)

Commissioners: Commissioner Dan McDonald

Staff: Steve Klatt, Rob Stepp & Jim Aney

Others: Molly McCahon, Mike Brown

Members Absent: Keith Sheckler, Doug Cossette, Jim Kelly & Ed Jochum

At 9:00 a.m. Chairman Jensen opened the meeting and asked if anyone present needed assistance to hear, see or participate in these proceedings.

- I. Public Comment – No Public Comment
- II. Adopt Minutes from January Meeting – No Quorum
- III. Old Business
 - A. Maintenance Report – Rob Stepp + Jim Aney – parks

Rob updated on the following:

- Marine Dept. Dock completed.
- Repairs on the Garfield Bay Dock – Pilings
- New Sewer line for Bottle Bay

Jim updated on the following:

- Building spare picnic tables; wheelchair accessible
- Snow Removal
- Paint purchased for BPW bathroom floor – epoxy paint
- Campground cleanup

Rob advised that they now have a light maintenance schedule and record/log.

B. Priest Lake Study

Steve advised that the contract is at the signing stage, it has been accepted by contractors. The consultant will be onboard within the next few days. We are pulling together our second steering committee meeting to review the scope of services next week.

At 9:05 a.m. there was a brief interruption due to a fire alarm.

At 9:11 a.m. the meeting was reconvened.

C. February Projects

1. Permit Work – Laclede parking
2. Permit Work – Slee Street dock extension
3. Marine Pump Station – Garfield Bay

Steve Klatt provided updates on the following:

- Sewer Line
- Boat Barn

- Hope Light – ladder
- #32 Southside build new platform for light
- One fire pit on Garfield Bay
- Working with a contractor for installation of pump out
- Side dock installed at Laclede
- Poo bag holders in dog beach and at BPW, Garfield Bay
- Navigation lights servicing the replacements of all navigation lights in Priest Lake.

There was a brief discussion regarding the current waterways map amongst Steve Klatt and the Board members.

Steve presented a new ramp sign for boating rules, there was a brief discussion amongst the audience and Board regarding the signs. He also provided a small handout/flyer/postcard re: wake damage.

IV. New Business

A. River Wake Awareness Committee

Steve Klatt advised that Molly has set up a meeting for tomorrow to get started. I hope to include property owners, large wake boat operators, interested parties, etc. to see if we can get suggestions for the County.

B. Resolution of Committee Structure & Member Appointments

There was a brief discussion amongst the Board, audience and Steve Klatt.

V. Miscellaneous Business

A. Albeni Falls Dam Update – Betsy Hull & Beth McCasland

Betsy Hull provided updates on the following

- Lake Level
- Rock project – set up on Monday
- Snow in Mountain – 81%, basin at 96%
- Master Plan for Albeni Falls Dam

Molly McCahon provided updates on the following:

- Idaho Watercraft inspection program; funding

VI. Featured Facility Review – a regular discussion idea

Which Facility Next?

Steve provided updates on the following:

- Permits on three different projects
 - o Rebuild for marine dock at the Hope facility
 - o Mooring buoy permits
 - o Adding 400' widening shoulder parking at Laclede

VII. Adjournment

At 10:17 a.m. the meeting was adjourned.



NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

For Immediate Release:
April 5, 2017

Contact:
Scott Lawrence, 206-764-6896
aaron.s.lawrence@usace.army.mil

Army Corps seeking public input for Albeni Falls land management plan

SEATTLE – The U.S. Army Corps of Engineers, Seattle District, seeks public input for updating the Albeni Falls Master Plan and developing an associated environmental assessment (EA) for land management of Corps properties on Lake Pend Oreille and the Pend Oreille River.

During the scoping period for master plan's environmental assessment – April 3 through May 5 – the public is encouraged to submit ideas and comments regarding management of natural resources and recreational resources that should be included in the Albeni Falls Master Plan. Comments may be submitted via email at AlbeniFalls.MasterPlan@usace.army.mil. To submit written comments via the U.S. Postal Service, mail them to:

U.S. Army Corps of Engineers
Seattle District
ATTN: Albeni Falls Master Plan/PM-ER
PO Box 3755
Seattle, WA 98124-3755

A master plan is a conceptual management plan for lands and natural resources of a Corps operating project. The original master plan for Albeni Falls was written in 1955, and updated in 1964 and 1981. In 2005, a revised master plan was started, but was not finalized. Since then, changes to site conditions and operations have resulted in a need to update management strategies. Updating the Albeni Falls master plan would build on work accomplished during development of the public use plan.

The planning team will rely heavily on previous efforts of working groups and interest groups, as well as the public input and collaboration used to develop the public use plan. The result will be a comprehensive conceptual-level planning document to guide future use and development on Corps lands on Lake Pend Oreille and the Pend Oreille River. Finalization of the master plan will bring Albeni Falls into compliance with current Corps policy and facilitate future actions to support balanced management of land-based resources at Albeni Falls.

An updated master plan will allow the Corps to be responsive to changing public needs and to accommodate a more diverse set of recreational activities. The new master plan will refine resource objectives and provide additional analysis required by Corps policy. The Albeni Falls Master Plan and EA are scheduled for completion in the fall of 2017.

###

From: McCasland, Elizabeth L CIV USARMY CENWS (US)
To: ["Aaron Calkins"; "Bob Howard"; Bonnie Butler; "Darcey Smith"; Graesser, Patricia A CIV USARMY CENWS \(US\); "Jessie Webster"; jideherra@bpa.gov; Julie Halliday, Bonner County Commissioners; Linehan, Ryne J CIV USARMY CENWS \(US\); Martinez, Madelyn T CIV USARMY CENWS \(US\); McGowan, Chiara V CIV USARMY CENWS \(US\); Mike Poulson; "Mitch Silvers"; Morris, Frances L CIV USARMY CENWS \(US\); "Nate Fisher"; Pend Oreille County Commissioners; Peterson, Jenna E; "Phil Hardy"; Reese, Amy R CIV USARMY CENWS \(US\); Shelley Landry; "Sidney Smith"; "Stephen Goodson"; "Susan Drumheller"; "Tim Petty"; Tom Karier; Chip Coris \(charles.corsi@idfg.idaho.gov\); "Deane Osterman"; Erin Mader; Hull, Betsy L CIV USARMY CENWS \(US\); Jason Flory \(jason_flory@fws.gov\); jbrady@idl.idaho.gov; June Bergquist \(june.bergquist@deg.idaho.gov\); Karin Baldwin; "Ken Merrill"; Marshall Williams \(marshall_williams@fws.gov\); Mike Ahmer \(mahmer@idl.idaho.gov\); Mike Durglo; Miles Benker \(miles.benker@idfg.idaho.gov\); Ray Entz - Kalispel Tribe of Indians \(rentz@knrd.org\); Rich Janssen, Jr.; Skaar, Shane K CIV USARMY CENWW \(US\); Slate, Shane P CIV USARMY CENWW \(US\); Sue Ireland; Tom McDonald; William Barquin](#)
Subject: Albeni Falls Master Plan - Public Scoping
Date: Wednesday, April 05, 2017 9:07:00 AM

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U.S. Army Corps of Engineers

Seattle District

ATTN: Albeni Falls Master Plan/PM-ER

PO Box 3755

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*****CAR-RT LOT**R 004

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ALBENI FALLS DAM

U S ARMY CORPENGR

2376 E HIGHWAY 2

OLDTOWN ID 83822-9243

THE NEWPORT MINER

THE VOICE OF PEND OREILLE COUNTY SINCE 1901

Wednesday, April 12, 2017

Volume 114, Number 1 | 2 Sections, 20 Pages \$1.00

www.pendoreillervervalley.com

THE MINER

Input sought for Albeni Falls land management plan

SEATTLE — The U.S. Army Corps of Engineers, Seattle District, seeks public input for updating the Albeni Falls Master Plan and developing an associated environmental assessment (EA) for land management of Corps properties on Lake Pend Oreille and the Pend Oreille River.

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Albeni Falls Dam public information meeting April 25

PRIEST RIVER — A public meeting will be held Thursday, April 25, from 6-7:30 p.m. at the Priest River Event Center to inform the public on Albeni Falls Dam operations.

Topics include: spring and summer operations; snowpack and inflow forecasts; a presentation on the dam's fish passage project; a review of winter operations, and a discussion about the Corps levee program.

The Priest River Event Center is located at 5399 Highway 2 in Priest River.

need to update management strategies. Updating the Albeni Falls master plan would build on work accomplished during development of the public use plan.

SEE ALBENI, 8A

ALBENI:

FROM PAGE 6A

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In addition to submitting comments by email, people can also mail them too. To submit written comments via the U.S. Postal Service, mail them to:

U.S. Army Corps of Engineers
Seattle District
ATTN: Albeni Falls Master Plan/PM-ER
PO Box 3755
Seattle, WA 98124-3755

FREE
Pulled Pork Dinner
Folk & Bluegrass
Music by Maple Ridge Band



Friday, Apr. 21st • 6:00pm
Hospitality House
216 S. Washington,
Newport

A New Beginning
Newport Southern Baptist

509-951-2607
509-447-3742



IDAHO DEPARTMENT OF FISH AND GAME

PANHANDLE REGION
2885 West Kathleen Avenue
Coeur d'Alene, Idaho 83815

C.L. "Butch" Otter / Governor
Virgil Moore / Director

May 5, 2017

Beth McCasland
U.S. Army Corps of Engineers
Seattle District
PO Box 3755
Seattle, WA 98124
Albenifalls.masterplan@usace.army.mil

Reference numbers for
Corps response

RE: Albeni Falls Master Plan Scoping

Dear Beth,

The Idaho Department of Fish and Game (Department) offers the following ideas and comments regarding management of natural and recreational resources to be addressed in the Albeni Falls (AF) Master Plan and associated Environmental Assessment (EA).

Under the current management agreement with the U.S. Army Corps of Engineers (ACOE), the Department is responsible for the management of the majority of the ACOE lands associated with the Albeni Falls (AF) Dam wildlife mitigation parcels. As the licensed manager of these properties, we recommend the AF Master Plan incorporate the Department's management direction regarding fish, wildlife, and sportsmen access needs. Specifically, we recommend the Master Plan include the Pend Oreille Wildlife Management Area (POWMA) Management Plan. 1.

Developed through extensive public scoping, the plan provides broad, long-term management direction for the POWMA and is evaluated at least every five years to determine if adjustments are needed. The current POWMA Plan (IDFG 2014) identifies goals and priorities for 7,432 acres of scattered parcels in the Pend Oreille watershed. Approximately half of those acres (3,970) are owned by the ACOE. It is in our shared interest to find effective solutions to manage ACOE lands for continued protection and enhancement of public resources. Coordination between our agencies will be imperative throughout the planning process in order to successfully fulfill our respective missions. 2.

The POWMA Plan is part of our Statewide Wildlife Management Plan, which directs all Department managed lands to maintain highly functional wildlife habitat and provide wildlife-based recreation. The POWMA is managed by the Department to enhance and protect wildlife habitat, as mitigated for habitat losses due to the Albeni Falls Dam, and to provide for public access for hunting, fishing, wildlife viewing, and other wildlife-based recreation and education

Keeping Idaho's Wildlife Heritage

opportunities. Habitat management emphasis has primarily been for waterfowl production and protection of wetland areas used by migrating birds in the spring and fall. The plan serves as a guide for current and future managers in deciding where to direct efforts and resources for maximum wildlife benefit, public enjoyment, and efficient operation.

Recent ACOE projects in the Pend Oreille River have focused on developed recreation (campgrounds, driftwood boom and yard system, and boat launches) and shoreline stabilization. Department Wildlife Habitat Biologist Miles Benker attended three field trips with ACOE staff in April 2017, to assess the past ten years of shoreline stabilization success on ACOE land. The review identified bank stabilization, native vegetation establishment, and noxious weed issues for each site. We are grateful for your participation in these site visits and hope our review emphasized the need to develop integrated projects that protect existing infrastructure, archeological value, and ecosystem function. This highly altered, complex system demands our combined expertise to find sustainable solutions to natural and recreational resource protection.

The Department, acting under supervision of the Idaho Fish and Game Commission, is charged with the statutory responsibility to preserve, protect, perpetuate and manage all fish and wildlife in Idaho (Idaho Code Section 36-103). Resident species of fish and wildlife are the property of all citizens within the state and decisions affecting fish, wildlife, and their habitats therefore are the concern of all Idahoans. The single greatest impact to wetlands in the Pend Oreille subbasin has been the construction and the continued operation of the Albeni Falls Hydroelectric Facility (Martin *et al.* 1988). Incorporating Department management direction, starting with the POWMA Plan, will help the ACOE meet wildlife habitat and recreation goals congruent with public needs in the State of Idaho.

We look forward to your continued collaboration. Thank you for the opportunity to comment.

Sincerely,



Charles "Chip" Corsi
Regional Supervisor

References:

Idaho Department of Fish and Game. 2014b. Pend Oreille Wildlife Management Area 2014 – 2023 Management Plan. December 2014. Prepared by David Leptich and Jim Derrig, Idaho Department of Fish and Game, Panhandle Region, 2885 West Kathleen Avenue, Coeur d'Alene, Idaho 83815. 83 pp.

Martin, R.C., H.J. Hansen and G.A. Meuleman. 1988. Albeni Falls wildlife protection, mitigation, and enhancement plan. Project. 87-43. Bonneville Power Administration. Portland, OR.

eC: Gary Vecellio, IDFG, Kathy Cousins, IDFG, Miles Benker, IDFG

Corps response to letter received from Idaho Department of Fish and Game dated May 5, 2017

1. The Pend Oreille Wildlife Management Area (POWMA) Management Plan is included in the list of Regional Management Plans (Chapter 2.8.14). The plans are interrelated and are considered when planning future actions.
2. The Corps will continue to partner with IDFG to manage Corps owned lands (Corps Wildlife Management Areas) in accordance to the license with IDFG.
3. The Corps will continue to work with IDFG personnel to find sustainable solutions as we develop projects that are to protect existing infrastructure, cultural and natural resources, in both wildlife management areas and recreation areas.

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